

American Artisan *and* Hardware Record

Sheet Metal - Roofing - Warm Air Furnaces - Stoves

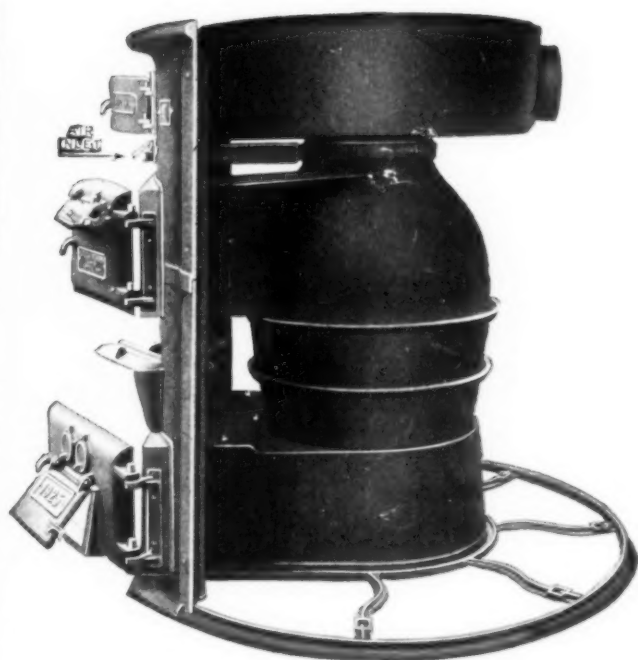
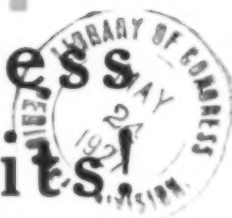
Vol. 93, No. 21

CHICAGO, MAY 21, 1927

\$2.00 Per Year

S. S. = \$ \$

The Super-Smokeless Means Larger Profits!



VIEW OF CASTINGS OF THE
SUPER-SMOKELESS FURNACE

THE SUPER-SMOKELESS Furnace will mean larger profits for you. It will put you in a distinct class actually above competition. With the SUPER-SMOKELESS you can increase your business and get better prices for your work.

The SUPER-SMOKELESS Furnace is the best furnace from the Home Owner's point of view, and therefore the best furnace for the Dealer to sell. In addition to burning soft coal smokelessly and economically, it has proved a big fuel saver even with hard coal. Actual tests prove conclusively that it develops more heat with less fuel (soft coal or hard) than any other furnace.

The SUPER-SMOKELESS means cleanliness, health, fuel economy and all-around heating satisfaction for the Owner. It means more and better business for the Dealer. It will pay YOU to investigate. Send for complete information and our Exclusive Dealer Proposition TODAY.

UTICA HEATER COMPANY

UTICA, N. Y. — CHICAGO, ILL. — MANUFACTURERS OF THE

CELEBRATED LINE OF WARM AIR FURNACES FOR EVERY HEATING NEED

After all the home owner wants a *good heating plant* and he won't shop for a price on a *furnace* if you can give him *more than he can get elsewhere at any price*

AND you can give more heating value—first by selling the home owner thoroughly on Warm Air Heating—second, by selling him on the importance of *proper* installation or heating engineering.

When you have sold your prospect on these two things and *your ability* to heat his home do you think that he will hesitate in accepting your recommendation of a *good* warm air furnace?

After all, you know that the price of the furnace does not greatly affect the price of the complete *quality* installation.

And yet the furnace itself is of utmost importance—its quality of material measures the *life* of the *entire system*—its *design* and construction measure the heating *efficiency*—its refinements the *convenience* and *ease of operation*.

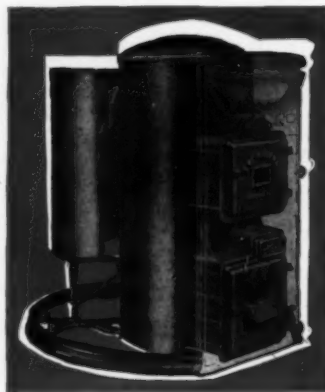
The Weir Steel Furnace is

the highest quality furnace made—it is built of heavier steel—*steel that is rolled to our strict specifications*—its design provides greater heating surface (*the radiator alone has more square feet of radiation than most furnaces*)—it is both riveted and welded for permanent tight construction—its water pan is larger and properly placed and even the casing has double casing rings to provide tight joints that prevent dust from entering the warm air chamber.

Its heating capacity is *certified*—its performance is *guaranteed* (when installed according to the Standard Code) and the furnace itself *including all its parts* is *unconditionally guaranteed* for five years.

For the dealer who sells *good warm air heating* the Weir is unquestionably the logical furnace to handle.

Ask for a copy of the WEIR "Book of Facts."

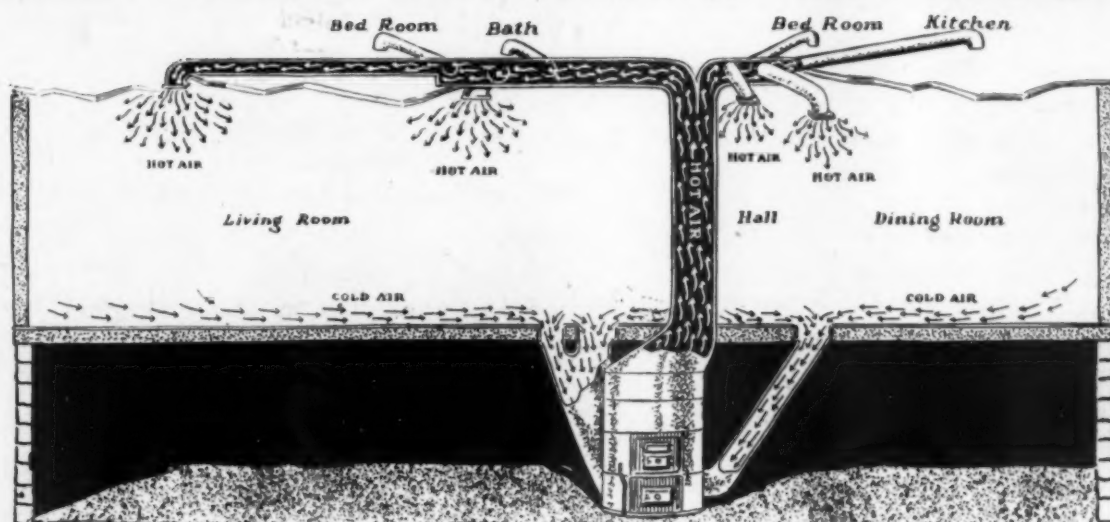


The MEYER FURNACE CO.
Peoria, Illinois

XXth Century Overhead System



for homes hard to heat



THE XXth Century Patented Overhead System, usable only by XXth Century dealers, produces more even heat in every room than a regular warm air installation. Due to the greater velocity of rising heat in one central pipe, rooms far away are heated just as well as rooms close to the furnace.

The Overhead System leaves the cellar free from pipes—a great convenience when laundry work is considered. Warm air registers are in the ceiling, which permits placing furniture where desired without fear of scorching.

Long, narrow bungalows as illustrated above, or homes with cellars only under one section, are types of homes to which the XXth Century Patented Overhead System is admirably adapted.

This system, in the hands of furnace dealers, is proving

a strong business getter. It simplifies installation methods and makes hard jobs easy. It will cost you nothing to get the complete facts. Clip and mail the coupon today.

The XXth Century H. & V. Co.
Akron, Ohio

Without obligation please send complete information on your Patented Overhead System.

Name _____

Address _____

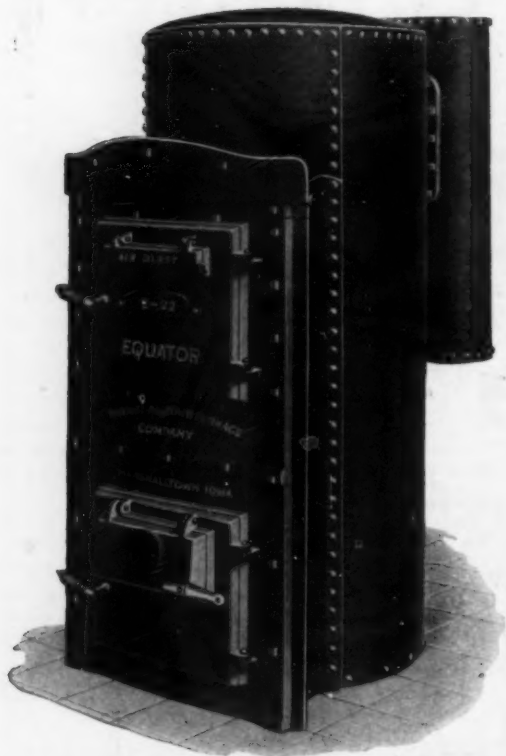
City _____

State _____

A. A.

The **LOW PRICED EQUATOR STEEL FURNACE**

DIRECT CHALLENGE FOR COMPETITION WORK!



\$56 and Gas Tight
*Less Quantity Discounts
Less Cash Discount*

Here is a very low priced
riveted gas tight steel furnace
for competition work

It is made of the same weights of heavy steel plates that are used in our highest priced quality furnaces.

It is not skinned in either material or workmanship.

It will never leak gas at its joints for all seams are riveted and cold welded absolutely gas tight.

It has no cast iron fire bowl to crack and cause replacement.

Contractors will all want it because their houses will sell better with a Gas Tight Steel Furnace in them

It will command a better profit and costs you no more than the inferior furnaces which you have been using for competition work.

You need not be obligated to anyone for we will cash all your time payment contracts at 92% of their face value.

We are the largest manufacturers of steel furnaces in the world and we will warehouse completed furnaces for you so as to insure delivery in the fall.

The Marshalltown Furnace Company is a subsidiary of ours

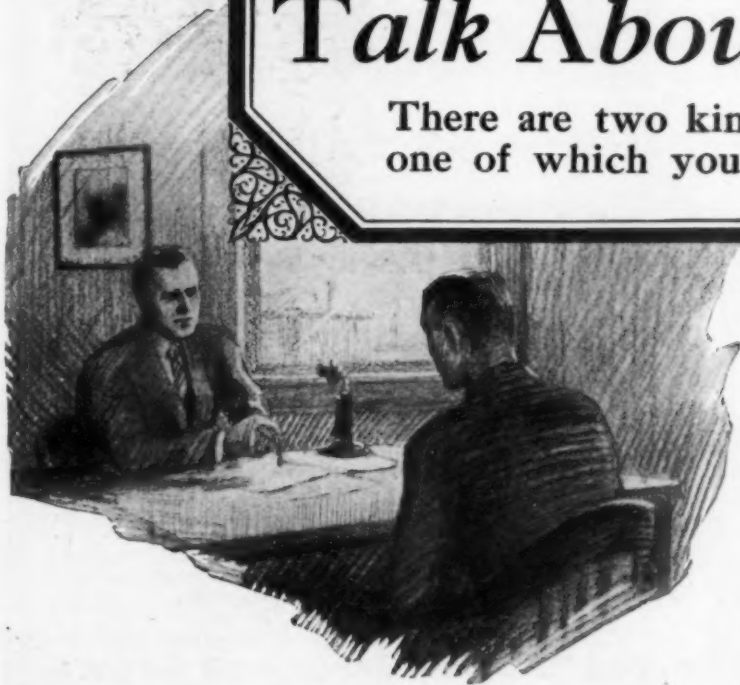
Lennox Furnace Company, Inc.

Marshalltown, Iowa

Syracuse, N. Y.

A Common Sense Talk About Furnaces

There are two kinds of furnace buyers,
one of which you may be overlooking



SOME buyers insist on quality at any price. Others buy strictly on price but expect quality, nevertheless. Each must be given the value he expects, or the reputation of the dealer and of all warm air heating is in danger. The good will earned by better jobs is more than offset by the dissatisfaction with one cheap job that goes wrong. Cheap furnaces make only a temporary profit; they build no good will—they endanger the future of your business and of all warm air heating.

If your business is selling furnaces—not simply taking orders—you can sell quality even to the confirmed price buyer. For, after all, he is looking for **VALUE** at a price. Offer him 100% more value for 25% more price, and you have a sale and a customer that will be a booster for years to come. In the Armstrong boiler plate furnace the overwhelming advantage of paying a little more is easily made obvious even to the layman.

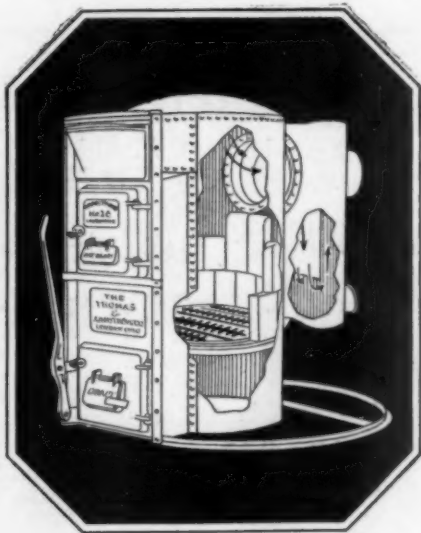
The Armstrong is 20% more efficient than inferior furnaces by actual scientific tests—the fuel saved the first year more than offsets the difference in price.

This, and other Armstrong advantages, make quality selling easy—even in the face of the strongest price competition. You can't afford to build your future on temporary profits from cheap furnaces. The Armstrong means more profitable jobs and the kind of satisfaction you can bank on for endorsement.



Riveted and Welded

1. Riveted for strength.
2. Welded for a perfect, permanent seal against smoke, gas, and fumes.



The Thomas & Armstrong Co.
London, Ohio
Dept. 502

NOTE: It will pay you to know all of the advantages of selling Armstrong quality furnaces. Write us on your business letterhead for literature describing ALL the distinctive Armstrong features, price and our dealer proposition.



*The
Boiler Plate*

ARMSTRONG FURNACE

Compete With Direct Radiation

Get in the competition for the big residence jobs. Sell circulating Warm Air Heat on its natural advantages.

The builder of a big home expects to pay a reasonable price for his heating plant. You can sell him a plant that will give more comfort and healthful heat than any direct radiation system.

If you will go after these jobs you can take business away from your direct radiation competitors and bring new customers to your shop.

"AFCO" Sales Assistance helps you to compete with direct radiation and to sell the better warm air system.

This service is available to only one live dealer in each town. If we are not represented in your town write us at once.

AMERICAN FURNACE CO., ST. LOUIS

Other Furnaces Come and Go, but "AFCO" Stays and Grows



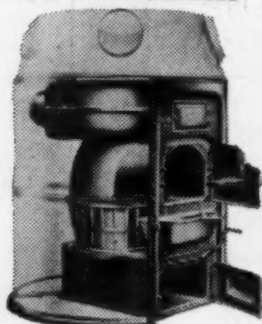
The "AFCO" Boiler Plate Line consists of three models. The Crescent style (illustrated above) the R. E. Style and T. Style radiators. They are identical in construction with the exception of the radiators and a few minor details. Each model is made in a complete range of sizes. Send for illustrated catalogue and prices.

Meeting the Needs of the Western Furnace Dealer

YEAR after year "Standard Line" dealers multiply in number and increase their percentage of the available business. This is mostly due to the completeness of "Standard Service."

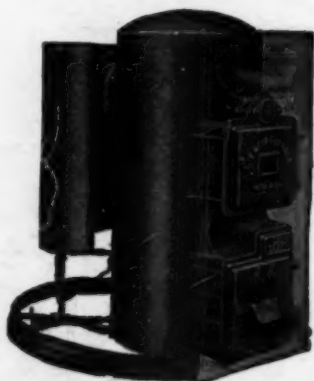
For Instance: From what other source can the Western Dealer obtain such complete selection of modern Warm Air Heaters as the Nesbit; Weir and Stanco Furnaces, 9 styles, and 47 sizes, in all.

Nesbit Moist Heat Furnace



Where else can you send an order for all of the following national brands and be assured of having your order filled complete?

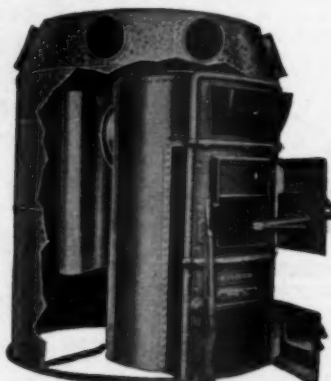
HANDY PIPE AND FITTINGS
"NO STREAK" REGISTERS
H & C—170-190 SERIES REGISTERS
STANCO REGISTERS
WISS SNIPS
PEXTO TOOLS
MAJESTIC CHUTES AND REGISTERS



WEIR STEEL FURNACE

Also the staple lines such as steel and semi steel Registers; Wood Grille; Whitney Tools; Asbestos Paper and Paste, etc., etc.

In fact we have everything for the Furnace-man.



STANCO STEEL FURNACE

STANDARD FURNACE & SUPPLY CO.
OMAHA, NEBR.

WANTED

THREE YOUNG MEN

Age 25-35

for Exceptional Traveling Positions, with old established furnace manufacturer. Territories are well developed and producing exceptional volume of business.

We prefer to train young men who have had retail experience selling furnaces, although sales representatives who can fill the necessary qualifications will be considered.

Applicants should have high school education as a minimum. Must have successful selling record which will withstand the closest investigation. These positions are out of the ordinary and we want exceptional men. Give complete details in your first letter together with 3 character references. Personal interview will then be arranged for. All applications will be treated strictly confidential. Our own organization has been informed about this advertisement.

Address Box XXX
c/o AMERICAN ARTISAN
620 So. Michigan Ave.
Chicago, Ill.

Doubles his business in a single year!

OFFICE IN 1710

REC. L. 2118 W

E. L. ELLSWORTH

"GEM" FURNACES, SHEET METAL WORK
FURNACE REPAIRING

1518-20 WEST THIRD STREET

DAYTON, OHIO, Dec. 10, 1926

Robinson Furnace Co.,
Chicago, Ill.

Gentlemen:

For the past few years it has been my custom to celebrate the Holiday season with a little party to the men of my organization and also a few friends of ours who have been especially responsible for the success of same in the preceding year.

The "Gem" Furnace and the help and courtesy shown by your company has been in a large way responsible for the success of my business this year. A real furnace, fair prices and prompt shipment is a combination that is indeed hard to beat.

It would, indeed, give us great pleasure to have you and also Mr. Taylor as our guests at this party which will be held Thursday, December 16th.

I sincerely hope that this past season is only a forerunner of many years of business relationship between us.

Yours for a Happy Holiday Season,

E. L. ELLSWORTH.

Here is an
unsolicited
testimonial
from one of
our Robinson
"Gem" dealers



"A real furnace—fair prices—prompt shipment, is a combination hard to beat."

That tells the story. For our part, it has been a real pleasure to cooperate with Mr. Ellsworth, who more than doubled his business in one year after taking on the Robinson "Gem" line. We can help you as we have helped Mr. Ellsworth make a real success in the furnace business.

The Robinson "Gem"—the quality furnace, yet still in the competitive field. Note its features—one-piece radiator, two-piece firepot, double feed doors, full cast front, lever shaker, clinker-proof grates, etc., etc. Every "Gem" guaranteed full size. Write us today for full particulars.

The **Robinson Gem**
Robinson Furnace Co.
205 West Lake St., Chicago, Ill.

Mention AMERICAN ARTISAN in your reply—Thank you!

16 Years' Experience

Building ROBINSON Electric Welded Steel Furnaces

Is real proof of the electric welded joint in steel furnace construction—gas and smoke tight, no joints inside the casing.

Improved radiator construction that takes the strain away from the drum and allows the use of TWO outlets from the drum to the radiator when additional capacity is required.

Your success depends upon REPEAT sales to satisfied customers—our sales plan will do this and bear in mind that the ROBINSON LINE is complete; FORCED AIR, GAS FURNACES, SMOKE CONSUMERS and all metal clothes CHUTE DOORS.

*Our folders are salesmen---they are yours.
WRITE TODAY.*

THE A. H. ROBINSON COMPANY
CLEVELAND, OHIO



Traveling East or West

A restful night on beautiful Lake Erie—to or from Niagara Falls, will add enjoyment to your trip.

Palatial steamers—Unlimited facilities, including large airy state-rooms, excellent dining room service.

Daily May 1st to November 14th—Each Way Every Night between

Cleveland and Buffalo

Leaving 9:00 p. m., arriving 7:30 a. m. (Eastern Standard Time)
Write for new Steamer Schedule between Cleveland and Buffalo via ERIE during July and August

Connections at Buffalo for Niagara Falls, Eastern and Canadian points. Connections at Cleveland for Cedar Point, Put-in-Bay, Toledo, Detroit and points West.

Our new 32-page Tourist Guide with complete information and maps will be mailed free—on request.

Ask your ticket agent or tourist agency for tickets via C & B Line. Your rail ticket is good on our steamers.

The Cleveland and Buffalo Transit Co.
Cleveland, Ohio

FARE \$5.50

New Auto Rate \$5.00 and up

BOLTS

WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, COTTER PINS, ETC. ALSO STOVE RODS, SMALL RIVETS AND HINGE PINS, CATALOG ON REQUEST.

THE KIRK-LATTY CO.
1971 W. 85th St. Cleveland, O.

PATTERNS FOR STOVES AND HEATERS
THE CLEVELAND CASTINGS PATTERN COMPANY
CLEVELAND, OHIO

PATTERNS
FOR STOVES AND HEATERS FIRST-CLASS
IN WOOD AND IRON
VEDDER PATTERN WORKS ESTABLISHED 1835 TROY, N. Y.

IRON AND WOOD
STOVE PATTERNS
QUINCY PATTERN COMPANY
QUINCY, ILLINOIS

WHEN you write to advertisers please mention that you saw it in
AMERICAN ARTISAN

BOOMER

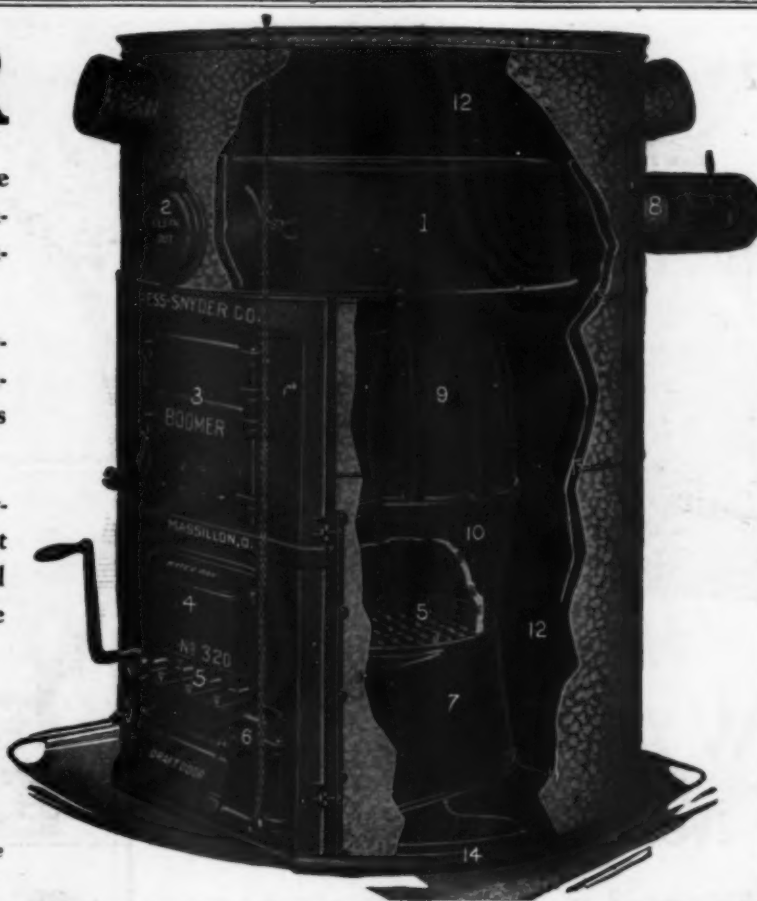
THIS is our latest addition to the Boomer line. We heartily recommend it for your favorable consideration.

The severe tests we have given this furnace have proven its durability. The unsolicited reports we received from users last winter have been most flattering.

For durability, economy, easy to operate, easy to set up and the low price at which we offer this furnace, you will make no mistake in arranging for the agency.

THE HESS-SNYDER CO.
MASSILLON, OHIO

Makers of BOOMER FURNACES for Forty-Three Years



"American Seal" FURNACE CEMENT

Roof Cement — Stove Putty
Plumbers Putty

PAINTS and SPECIALTIES

WILLIAM CONNORS PAINT MFG. CO.
TROY NEW YORK

Established 1852
JAMES L. PERKINS
Western Distributor
140 S. Dearborn St., Chicago, Ill.



FANNER STOVE AND FURNACE TRIMMINGS

For Quality and Service use Fanner Trimmings. We operate our own Malleable and Gray Iron Foundries.

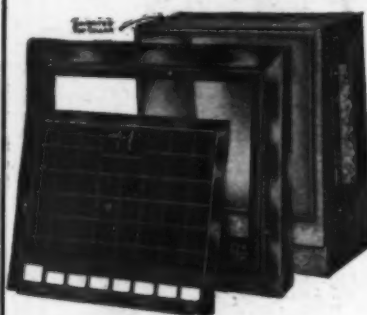
Write today for latest illustrated catalog which lists and describes our complete line.

THE FANNER MFG. COMPANY
BROOKSIDE PARK CLEVELAND, OHIO

*The Center of Interest
in Your Heating Jobs
are the Registers.*

Grasp this
FREE AD
by using

*The Only
Guaranteed
NO-STREAK,
Attractive,
Economical and
Efficiently
Satisfactory
Register.*



All



Registers
carry this
mark

Mail this Coupon
today to

ROCK
ISLAND
REGISTER
CO.,
Rock
Island,
Ill.

R. I. REGIS-
TER CO.
Rock
Island, Ill.

SEND me
prices and
full information
on R. I. NO-
STREAK REG-
ISTERS

Name.....

Address.....

AA



Have you seen it?
WALWORTH
New Standardized
 STYLE B
Baseboard Register

NOT only made throughout in accordance with the rules of the Standardization Committee but it is the *neatest* durable register ever made to sell at a popular price.

Simple, easy and accurate in operation, cast face made of the best iron, finished in all the popular finishes and made in the following sizes:

8x10	inch	2 1/4	base	extension
8x12	"	2 1/4	"	"
9x12	"	2 1/4	"	"
10x12	"	3 1/4	"	"

Study the features of this new register.

Write today for full particulars and prices on the Walworth New Standardized Style B Baseboard Register.

Order some for that next job—your customers will want them.

Made by the makers of Walworth Double Gratings, Semi-Steel Registers, Side Wall and Floor Registers, Ventilators, Borders and Casings Rings.

**THE WALWORTH RUN
 FOUNDRY COMPANY**

West 27th Street and N. Y. C. & St. L. R. R., Cleveland, Ohio

Distributors:

ROBINSON FURNACE CO., Chicago, Ill.
 HART MFG. CO., Louisville, Ky.
 PHILLIPS & BUTTORFF MFG. CO., Nashville, Tenn.

Eastern Representatives:

PENN TINSMITH'S SUPPLY CO., Philadelphia, Pa.



**HANDY
 ELBOWS**

are just like the remainder of
 the HANDY line ~

**STRICTLY HIGH
 QUALITY AND
 FIRST CLASS IN
 BOTH
 MATERIALS
 AND
 WORKMANSHIP**

SEND to us for all your needs—
 and be assured of prompt ship-
 ment and good merchandise.

F. MEYER & BRO. CO.
 1311-13 S. ADAMS ST. PEORIA

Announcing the Second and Greater **MILES AUTOMATIC FURNACE FAN SCHOOL** *of Furnace Engineering*

Dedicated to the task of advancing the art
 of scientific warm air heating service.

At Cleveland, Ohio, June 13th to 25th

*Under personal direction of J. C. MILES, Vice-president
 The Warm Air Furnace Fan Co.*

SESSIONS WILL BE HELD AT THE

New Hotel Allerton Club Residence, Cleveland

THIS school is designed to help the traveling salesman of Furnace Manufacturers. It aims to contribute the practical furnace engineering knowledge that every manufacturer wants his men to have.

It will put every man who attends it in a position where he can do better work for the dealer and thus be of greater service and profit to his employers.

No man can come to this school and not be inspired with greater loyalty towards the business he is in, greater loyalty towards the company he works for, and a greater confidence in himself based upon knowledge.

The basic idea is to instruct them in practical furnace sales engineering service.

The success of our first school proves what can be done when men are sincerely interested.

This school has the advantage of growing out of the experiences of the first

school. That is why we believe it will be better and greater.

The furnace salesman of today must know what he should know about—

B. T. U.'s	Radiant Heat
Constant K	Convection Heat
Factor 55	Conduction Heat
Specific Heat	Air Motion and Humidity

He will learn this and a whole lot more at this new school. We pay all expenses of the school. You pay the expenses of your men.

It is important to let us know as quickly as you can, by wire or mail, just how many men you will send.

The school is also open to furnace dealers. We expect many of them. If you are a furnace dealer remember we can accommodate only 200 in all, therefore don't delay a minute after seeing this advertisement, but wire your reservation in to us.

The Warm Air Furnace Fan Company

6521 Cedar Avenue, Cleveland, Ohio

The Vendor Who Cut Off His Hands



THERE is an old story about a merchant in a distant land who, when informed by the King's men that the despotic ruler had placed a tax of one piece of silver on every hand throughout the land, forthwith cut off his hands to evade it.

How shortsighted of Ben Ali, or whatever his name. The poor merchant, incapable of earning, unable to survive, passed out—starved in helpless poverty. He had evaded the tax and saved his piece of silver—but in so doing had lost all.

Well, here's the point. The hands of your business and of ours are the service and values we deliver to our customers. We might just as well try to make gold out of carrots as to

try to build a sound business without them. The furnace man who skimps on the quality of his job saves a pittance but in so doing undermines his reputation—jeopardizes his future.

Ponder this. Lamneck Simplified Pipe and Fittings cost no more than any other ready made fittings of standard make. In fact, these neat, trim, sturdy items cost very little more than the metal in the rough. What penny wise folly then to accept similar products of questionable merit or to waste your time and effort making them in the shop.

“Lamneck's” are the best that skill, experience and flawless raw materials can make—true to promise, true to gauge—honest value. Why not give this quality to your customers?



THE W. E. LAMNECK COMPANY, 416-432 Dublin Ave., Columbus, Ohio

Western Representative: THE QUICK FURNACE & SUPPLY CO., Des Moines, Iowa

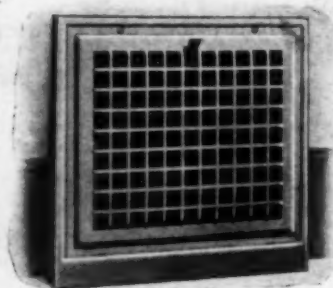
LAMNECK

SIMPLIFIED PIPE AND FITTINGS

(NOTE: Write for catalog and prices. Samples of our own manufactured products free for the asking.)

When writing mention AMERICAN ARTISAN—Thank you!

Registers and Faces That Sell!



Baseboard Style 901 Register — Positive Center Movement. Shown in TANVORY finish.



ONE good reason for the ever-increasing popularity of T&B Registers is the new variety of finishes in which they are offered. For we realize that the greatest amount of satisfaction results in every direction if a register is good-looking as well as mechanically efficient. Our **Tanbo Antique** and **Tanvory** finishes are colors that blend harmoniously with almost any interior.

The "Cobble" Cold Air Face has met with approval everywhere because its use promotes economy. Sturdy construction, ease of installation, hard-wearing finish, all promote easy sales.

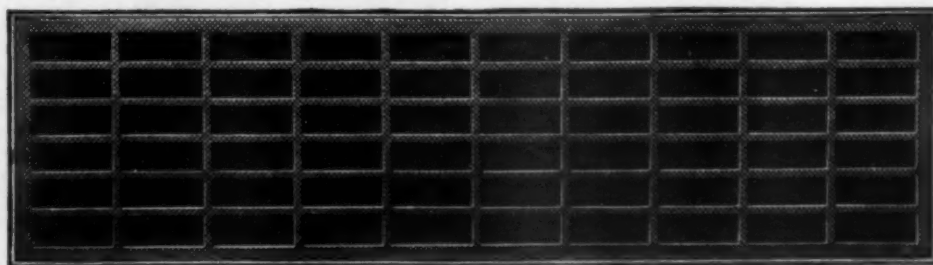
Dealers will profit by mailing in the coupon below.

TUTTLE & BAILEY MFG CO.

Established 1846

441 Lexington Avenue

New York City



Style C "Cobble" Cold Air Face. Note tiny "cobble" covering entire face

REGISTER CAPACITY

Exhaustive tests conducted by the National Warm Air Heating and Ventilating Ass'n have established that a register gives 100% capacity if the fretwork in its face does not exceed 30% of the opening size. Thus T&B Registers and Faces are designed to give 100% capacity—and they do!

TUTTLE & BAILEY MFG. CO.

A A 5-21-27

441 Lexington Ave., New York City.

Gentlemen: Please send full information regarding T&B Registers and Cold Air Faces.

Name

Address

Founded 1880

Published to serve
the
Warm Air Furnace,
Sheet Metal, Roofing
Stove and Hardware
Industries

American Artisan and Hardware Record

Yearly Subscription
Price:

United States\$2.00
Canada\$3.00
Foreign\$4.00

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Etta Cohn
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G. J. Duerr
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CHICAGO, MAY 21, 1927.

\$2.00 Per Year.

Table of Contents

	Page		Page
Sheet Metal Department.....	105 to 111	The Editor's Page.....	113
National Capitol Building Roofed with Sheet Copper 134 Years Ago.....	105	Reducing Wages Curtails Purchasing Power.....	113
Wisconsin Sheet Metal Officers Hear Talk on Indenturing Apprentices.....	106	Why You Should Attend the Western Warm Air Meeting	113
McKay Brothers, Evanston, Illinois, Find Profit in Sheet Metal Window Display.....	107	Heating and Ventilating Department.....	114 to 118
C. A. Rothe Talks on Indenturing of Ap- prentices	108	Determining Most Efficient Warm Air Leader Connections, by John S. Walker.....	114
Describing Construction of Pattern for Right Angle Tee	109	Selling Heating Service Instead of Heating Systems, by J. C. Miles.....	115
Hand-to-Mouth Buying Cuts Down Peaks and Valleys in Production.....	110	Michigan Swings into Line to Support Stand- ard Code	117
Paul L. Biersach Allies Self with Friedley- Voshardt	111	Retail Hardware Doings.....	118
Notes and Queries.....	111	Hardware Department	119
Random Notes and Sketches, by Sidney Arnold	112	Henry H. Beers Dies.....	119
		Coming Conventions	119
		Markets	120

AN ACHIEVEMENT

An explanatory note regarding service to readers of AMERICAN ARTISAN. This paper is now nearing the completion of a half century of service. For almost fifty years it has catered to the needs of the men in the industries which it represents. At no time during its long and successful career has AMERICAN ARTISAN been in a better position to render complete, adequate service to its readers than it is today. In addition to the matter contained in our regular weekly publication, we maintain Service Departments for the use of our readers. If you have a problem to solve, we courteously invite you to submit it to us for solution. In what better way can we learn of your problems than from you direct?

THATCHER

BOILERS-FURNACES-RANGES

**Delivers an
Ample Supply of Pure,
Fresh, Healthful Heated Air**

WHEN you install a Celebrated Thatcher Tubular Furnace you know your customer will receive complete heating satisfaction with the ample quantity of clean, fresh, healthful heat it delivers.

The unique tubular construction is the reason for the high efficiency of this furnace. The rapid circulation of fresh air over its large heat radiating surface and through the many special cast iron tubes prevents the warmed air from becoming burned or scorched.

The one-piece tubular radiator with positive gas-tight joints makes the escape of coal gas impossible and is but one of its outstanding features.

Write for trade information and full details about the Celebrated Thatcher Tubular Furnace and other Thatcher Products.

The Thatcher Company

Since 1850

NEWARK, N. J.
39-41 St. Francis St.

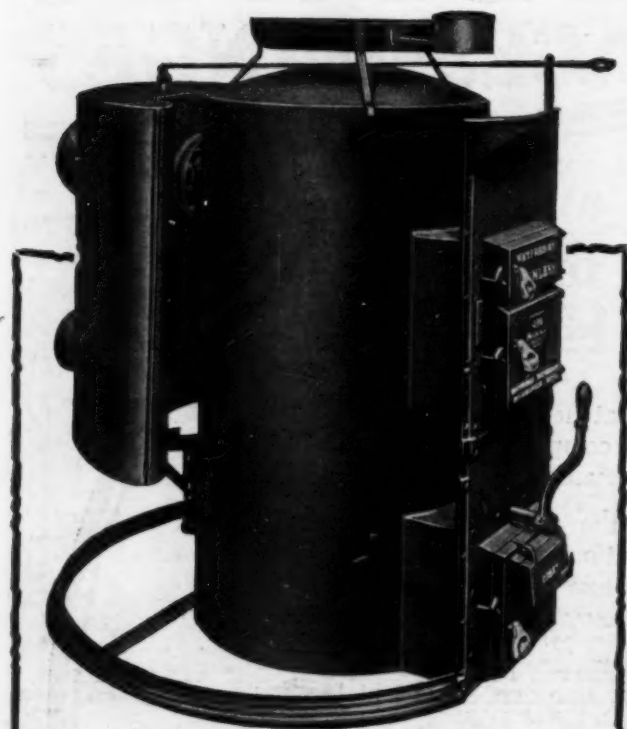
NEW YORK
21 West 44th St.

CHICAGO
341 N. Clark St.



**Celebrated Thatcher
Tubular
Warm Air Furnace**

Get the Agency for This SEAMLESS, Heavy Welded Steel Furnace



NOT simply steel, but welded SEAMLESS steel, the heaviest used in furnace construction. That spells CLEAN heat permanently.

Greater Humidity

Not simply a water-pan, but really adequate moisture, with a shallow pan placed at the top for more heat and even distribution. Folks want this feature. Automatic if desired.

No undersized radiators—a special size for each furnace. The Standard Code capacity of every size Waterbury is plainly designated by a metal plate.

Prompt Service

Complete Stocks carried in Philadelphia, Pittsburgh, Albany, New Orleans, Kansas City, San Francisco and Seattle.

THE great public preference is for clean heat, ample moisture, quick results, less waste.

That's why the Waterbury sells easier to more people! Its many decided advancements in furnace design place this furnace way out in front.

Waterbury sales are going ahead at a pace never before approached. Don't be handicapped this year. Write for our big catalog and agency proposition in detail. *Then judge for yourself.*

Simply mail the coupon.

The Waterman-Waterbury Co.

1122 Jackson St. N. E. Minneapolis, Minn.

WATERBURY
SEAMLESS FURNACE

REG. U.S. PAT. OFF. PIPE OR PIPELESS

The
Waterman-
Waterbury Co.
1122 Jackson St. N. E.
Minneapolis, Minn.

Please send me complete details for the Waterbury Agency proposition and your illustrated catalog

Name.....

Address.....



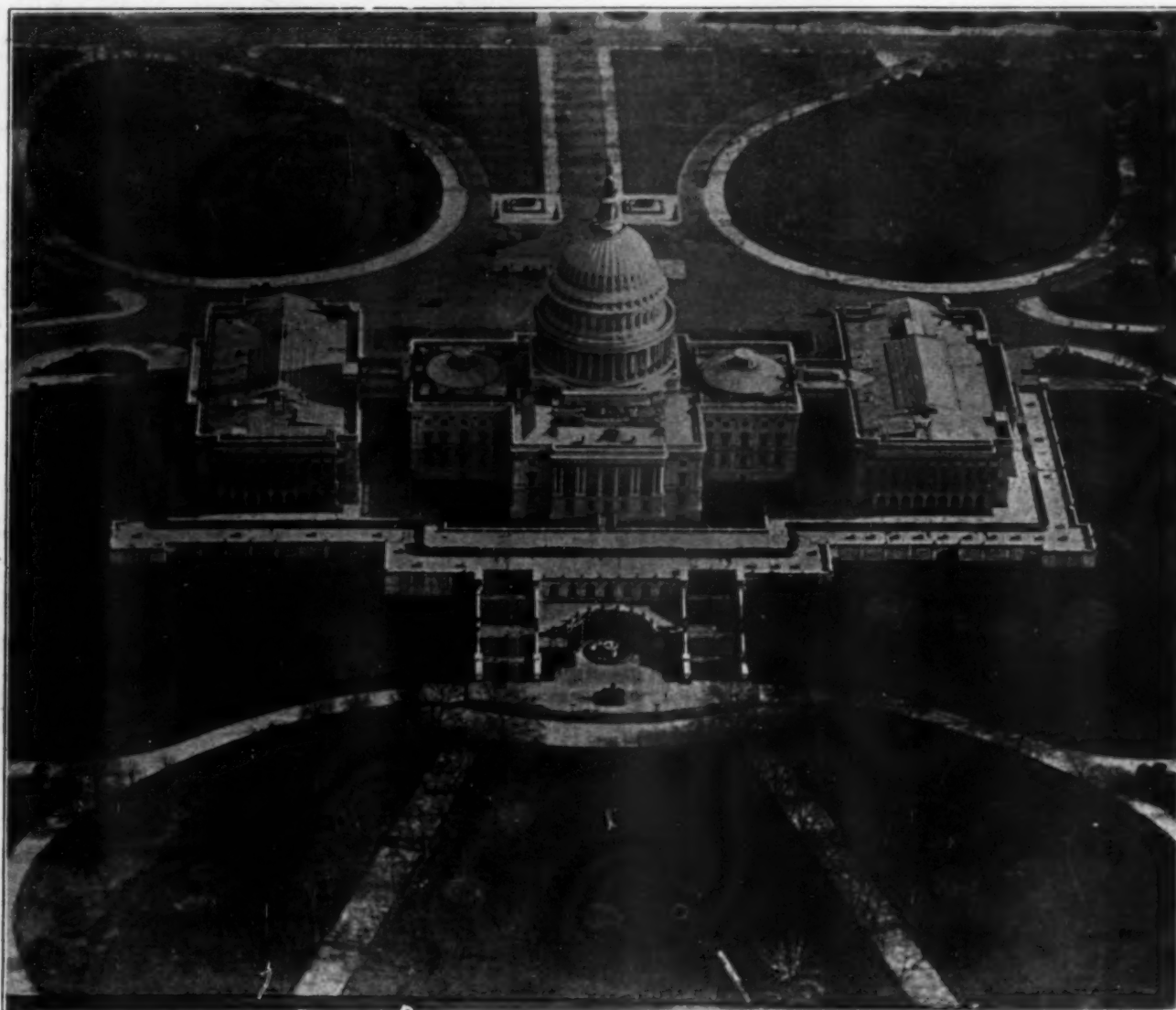
American Artisan and Hardware Record



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CHICAGO, MAY 21, 1927

No. 21.



Capitol Building, Washington, D. C., One Section of Which Has Been Protected with Copper Roofing Over a Century

National Capitol Roofed With Sheet Copper 134 Years Ago

*Capitol Architect, David Lynn, Praises
Roof's Quality of Endurance*

LITTLE did our forefathers think when they built the Capitol at Washington, D. C., the corner stone of which was laid by George Washington in 1793, that the copper roof placed thereon

would outlast the Constitution. It has been necessary to patch the Constitution nineteen times, while only once has it been found necessary to replace any part of the old copper roof and that time has been within

the past few weeks. The part of the roof replaced represents, however, only a fractional part of the total area covered by copper roofing.

The old part of the Capitol, which is that part in which Statuary Hall,

the Supreme Court of the United States and the Law Library are located, was constructed first, having been finished about 1800.

The House and Senate wings, which now house both branches of Congress, were built in 1859 and were covered with corrugated copper roofing which today is as good as the day it was placed there.

"As a matter of fact, that copper roofing will last a thousand years and will never have to be replaced," said David Lynn, Architect of the Capitol.

When the old copper roofing which it was found necessary to replace was removed, the Bureau of Standards made a study of its con-

dition. They found the copper still serviceable, so that it can be used again, thus following out the economy policy of President Calvin Coolidge.

J. A. Brown, Superintendent of Construction at the Capitol, estimates that, in spite of the great length of time the copper has been in place and the hardships it has undergone, only about one ton of copper or 2,000 pounds will be necessary for replacement purposes. That this represents only a small area is shown by the fact that the National Capitol today, excluding both the House and Senate Office Buildings, has approximately 300 tons of copper roofing.

Wisconsin Sheet Metal Officers Hear Talk on Indenturing Apprentices

Greenwood Offers Service in Publishing Convention Souvenir or Year Book

C. A. ROTHE, of the Wisconsin Industrial Commission, was a guest at the recent monthly meeting of the Master Sheet Metal Contractors' Association of Wisconsin held in Milwaukee, according to Secretary L. F. Reinke.

The subject of Mr. Rothe's address was "Indenture of Apprentices in the Sheet Metal Industry." In the course of his address, Mr. Rothe indicated to the contractors present how the interests of the sheet metal industry would be advanced by proper training of the young men who enter it. He also showed how it is to the advantage of the individual contractor to be able to hold his good employees by compelling them to live up to the apprenticeship agreements.

Minutes of the previous meeting were read. These were corrected to read that Mr. Biersach was only appointed an alternate pending the meeting of the Milwaukee Association. If they sent a representative, and he was chosen, the state wanted two representatives to go. Otherwise Mr. Biersach was to go as one of the regular delegates from the state. With this correction, the

minutes were approved.

A letter from Charles R. Greenwood was read. In this he offered his services in publishing a special souvenir convention year-book or program. This would cover the activities of the convention, carry other information useful to the sheet metal contractors, and articles showing the advantage of having non-members become affiliated with the association. The secretary further explained that this would be handled in entirety by Mr. Greenwood, and would be a source of securing new members, and also added revenue for the association.

On motion by Mr. Biersach, seconded by Mr. Reinick, the secretary was instructed to invite Mr. Greenwood to appear at our next monthly meeting, and present his proposition in person.

Letters from the Milwaukee Auditorium, and the Hotel Martin were also read, and the secretary instructed to write advising that as our convention did not take place until February of next year, this would be taken up at a later date.

Mr. Reinick reported the resignation from the Madison local of the

following concerns: Holland Furnace Co., A. C. Schwarz, Otto C. Barth, Boss & Nellis.

On motion by Mr. Biersach, seconded by Mr. Reinick, these resignations were accepted.

The treasurer's report was accepted as read. On his notifying the meeting that the national membership cards had as yet not been received, the secretary was instructed to ask for these to be sent at the earliest possible date.

O. A. Hoffmann, Alfred Goethel, and R. Jeske were appointed a committee of three to act on the "Indenture of Apprentices."

Present at the meeting were President C. C. Tolg, Waukesha; C. Pansch, Racine; Alfred C. Goethel, Milwaukee; Paul L. Biersach, Milwaukee; J. Anderson, Madison; L. F. Reinick, Milwaukee; Frank Reinke, Madison.

W. A. Whitney Mfg. Co. Has Attractive Folder on Metal Punches

The W. A. Whitney Manufacturing Company, 715 Park Avenue, Rockford, Illinois, have recently issued a very attractive little folder entitled, "Prevent Hold-Ups in Hole Punching." This folder contains a select partial list of the Whitney lever punches in varying sizes and in the latest models that have been produced.

Each punch is individually described so that the sheet metal contractor can make a selection of his needs from it. The folder will be sent to any contractor upon proper request being made for it.

J. Kefferly Sheet Metal Works, Chicago, Moves to New and Larger Location

The J. Kefferly Sheet Metal Works, formerly located at 2209 North Tripp Avenue, Chicago, has been moved to 4320-22 Armitage Avenue, where the company is maintaining larger quarters which include a well equipped office, a display room and sheet metal and furnace shop.

McKay Brothers, Evanston, Ill., Find Profit in Sheet Metal Window Display

Display Made at Minimum Cost—Stock Products Are Used

SHEET metal contractors are coming more and more to realize the unquestioned value to their business of an attractive window display. Heretofore they have labored under the impression that it was impossible to display attractively sheet metal products. But this false impression has been dispelled by McKay Brothers, sheet metal contractors and hardware dealers at Evanston, Illinois, whose window display of sheet metal products is herewith shown. It was arranged to stimulate spring roofing

business and will be duplicated in the fall to catch further business before winter sets in.

There are two interesting things about this window: First, all of the items displayed are from stock, therefore, the window can be duplicated by any other sheet metal shop or hardware store; second, the cost of arranging this window is very small. The only cost involved is the making of a few signs and the purchase of a few rolls of colored paper.

The color scheme in this window

is very attractive. The valance around the top of the window is yellow paper. The panels, on which the miter, elbows, and end and outlet rest, are covered with green paper and rest on boxes covered in red and having a yellow valance. These colors, together with the silver-like sheen of the galvanized products, make a very striking display. The products shown are those of the Barnes Zinc Products Company.

Displays of this kind are not hard to make.



Sheet Metal Products Window Display Staged by McKay Brothers, Evanston, Illinois, to Attract Spring Trade. Display Will Be Duplicated in the Fall

Wisconsin Sheet Metal Men Consider Action on Apprenticing

See Necessity of Attracting Young Blood Into Sheet Metal Industry for Training

THIS association, like many others, sees the shortage of skilled mechanics becoming more acute each year, because many of the good mechanics are entering other lines, specializing in one product, and often with one operation for the mechanic. The time of getting trained help from foreign countries is past. Of the limited number of immigrants coming to America each year, there are now but a few who have a trade.

There are but two remedies to eliminate conditions of this kind, namely, the apprenticing of our American boys, or the construction of machines to do the work that is now being performed by skilled mechanics. Of these two methods mentioned, the first is by far the more practical and satisfactory, as the time has not yet arrived when all kinds of work can be performed by machines.

The apprentice contracts, when under state control, and properly handled, are as near the solution of the problem as is obtainable.

The state contract is made out in triplicate, one copy goes to the employer, one to the boy, and the third is filed with the state. Each contract gives the name and address of the parties concerned, the true age of the minor to guard against any possible violation of the Child Labor Law, and the possibility of penalizing the employer in case of injury to the minor, in case of falsified age record.

The contract states the trade to be taught in its various branches, the date of beginning, the total number of hours to be worked, the total number of hours to be spent in school instruction, the compensation to be paid during the various periods of the contract, provisions for over-time, penalties for violations of contract, information re-

garding diploma and bonus on completion of contract.

Many of the present sheet metal men state they can teach the sheet metal trade without an apprentice contract. This is true, but do they give their boy, under their own agreements, an opportunity to take the time of the \$1.00 per hour man to show him how to do lay-out work, read plans, or help him with a problem in geometry, which is

In this article on the "Indenture of Apprentices in the Sheet Metal Industry," the author, Mr. C. A. Rothe of the Wisconsin Industrial Commission, has set forth a few of his ideas on the desirability of apprenticing the American youth as a means of insuring industry of a sufficient number of skilled mechanics.

Mr. Rothe spoke at a recent meeting of the Master Sheet Metal Contractors' Association of Wisconsin held in Milwaukee.

very valuable to every sheet metal mechanic?

Milwaukee has three very capable men in O. A. Hoffman, R. Jeske and Alex. Goethel, to represent their master organization in a state apprenticeship committee to work with three men to be chosen through organized labor to represent the employees. The duty of the state committee is to choose men for each city in the state to promote apprenticeship in their various districts, assist in drawing up standard forms of contract to be used in the trade, namely, the furnace men, the cornice and big work, the blow pipe workers, ventilation, and the general small jobber. Also they must visit the vocational schools, where

established, to cooperate with the instructors, and see that apprentices are given academic and practical work in school. They must also draw up sets of rules governing credits to be allowed boys already in the trade, assist in the settlement of disputes. They must hold periodical examinations to determine the progress of the apprentices, see that the various local committees work, and note the progress that is being made.

Who Makes 16 or 18 Gauge Iron or Steel Tubing 7 Inches in Diameter?

TO AMERICAN ARTISAN:

Can you advise us where we can get 16 or 18 gauge iron or steel tubing, 7 inches in diameter?

MEYERS SHEET METAL WORKS.
314 WEST MILWAUKEE STREET,
JANESVILLE, WISCONSIN.

R. H. Vandeveld Finds "Artisan" Invaluable in His Business

R. H. Vandeveld, of R. H. Vandeveld & Company, 113 Market Street, Dyersburg, Tennessee, says about AMERICAN ARTISAN:

"Sorry to have made you send me the second notice, for anyone who would allow his subscription to AMERICAN ARTISAN lapse is just about ready to quit the sheet metal and warm air heating business."

Yours very truly,

R. H. Vandeveld.

New Brunswick Cornice Works Incorporated for \$100,000

The New Brunswick Cornice Works, New Brunswick, New Jersey, has been incorporated with \$100,000 capital to manufacture sheet metal products by Edmund J. Hayes, New Brunswick.

Describing Construction of Pattern for Right Angle Tee

Which Intersects an Elbow—An Interesting Problem in Development

By O. W. KOTHE, Principal St. Louis Technical Institute

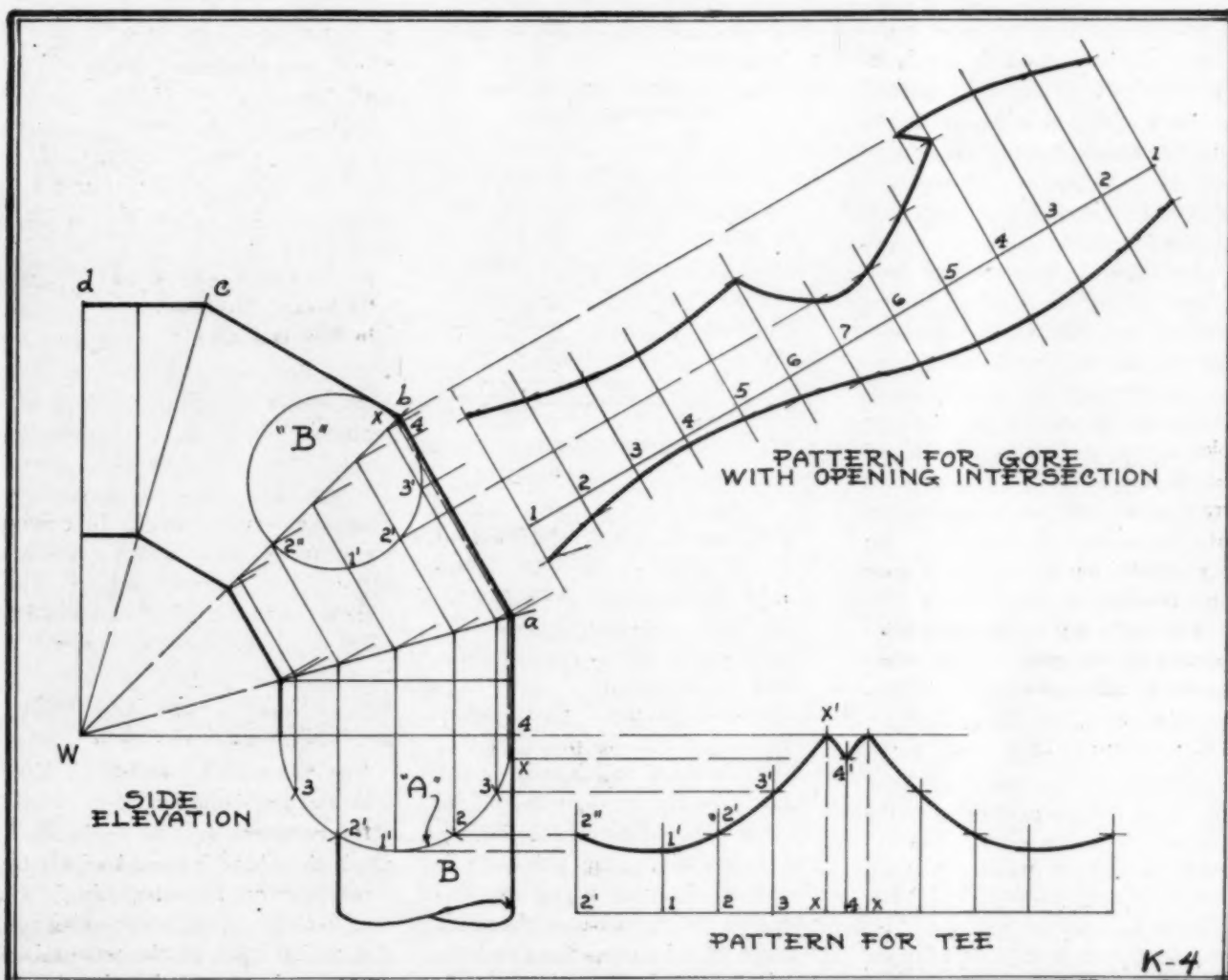
IT is not often that a person meets with a tee intersecting miter line of an elbow similar to the one shown by section "B." In general such problems can be overcome by simply rearranging the piping slightly, as they are never any too efficient.

But as a problem in development it is interesting to attempt to arrive at points of penetration without a great deal of projection work. In the sketch the elbow is first described from center W, and the heel is divided into 6 equal parts, which

will make 4 pieces in the elbow. Miter lines are drawn and then section "A" is described and divided in any number of equal parts. Where these lines carry up into gore cross section "B" gives us our lines of intersection between the tee and elbow. So that if we draw an end view, as at B, and pick the girth from section "B," as 4x3-2-1-2, and step this off on a line, we can project lines as shown, which makes a development. The triangular effect, x'-4' in miter cut, is produced by the circle being tangent to the

heel of the elbow so that there is a little point x in section B that is not tangent with heel of elbow, but that must be cut out because of the seam.

This will be observed in developing the pattern for gore by picking the girth from section "A" and stepping it off on line 1-1. Then stretchout lines are drawn at right angles to this line and from each point in miter line W-a as well as in the section "B" as 2''-1'-2'-3'-4'-x. Lines are projected into stretchout until they meet with lines of similar number.



Pattern for Right Angle Tee

Hand-to-Mouth Buying Cuts Down Peaks and Valleys in Production*

Places Business on a More Even Keel—Advices Individual Quit Doing Business for Fun

By J. B. ROBERTS

THE subject assigned to me for discussion is the question, "Has hand-to-mouth buying been overdone?" The answer depends largely on the speaker's point of view. So long as a business can be conducted satisfactorily and profitably under a policy of hand-to-mouth buying, then it can not be said that the policy has been overdone with respect to that business; but if that policy is carried to such an extent that stocks are allowed to become broken and inadequate for giving satisfactory service to the trade, then the business and profits will suffer. To achieve just the right balance in this respect is the ideal toward which we are all more or less successfully striving.

Hand-to-Mouth Buying Overdone From Viewpoint of Mills

From the viewpoint of the manufacturer of steel products, I think unquestionably the correct answer is "yes." The sheet steel business furnishes, perhaps, the best illustration and the most convincing reasons for this answer. In this business the policy of buying only for immediate needs has been developed and put in practice to such an extent that the mills' schedules are seldom filled more than a week or two ahead, and it is not an infrequent occurrence for a sheet mill to start operations the first of the week with the rolling program for that week incomplete, depending upon incoming orders to fill out the schedule.

Such conditions make it very difficult to operate the mill economically, and add materially to the cost of the

product. Yet in the face of these unsatisfactory operating conditions and increased costs, the pressure from keen and sometimes unscrupulous buyers for lower prices meets a too ready response from sellers, who are unable to look with equanimity upon an almost empty order book.

However, we are beginning to realize that with all of our customers working on this same hand-to-mouth basis, we are pretty well assured that a new batch of orders will be coming along to fill next week's program, and so a thin order book doesn't worry us quite as much as it used to.

Hand-to-Mouth Buying Has Advantages, Too

One of the good effects of hand-to-mouth buying is that it cuts down the peaks and fills up the valleys, so that business volume runs along on a more even keel, and if business people generally can learn to keep their heads and not get nervous and reckless just because there is not a large volume of unfilled orders on the books, we may see the time when the new order of things will be better and more profitable than the old.

Perhaps a better angle from which to approach this topic would be with the question, "What can we do to adapt ourselves to the conditions brought about by hand-to-mouth buying?"

We are confronted by a condition, not a theory, and there is little that we can do either individually or collectively to change it, whether we think it is overdone or not; but we can, if we will, prevent this condition from throwing us off our balance and cutting us out of the profit that we earn by our efforts and the service we perform, and all that is necessary to insure us that profit is

for each of us individually, whether manufacturer or jobber, to *make up his mind* to quit doing business for fun.

If we will each make a May-Day resolution that we will obtain a reasonable profit on every business transaction we enter into, we may find ourselves doing a little smaller volume for a time, but when our annual statements are made up, they will be a source of pride instead of embarrassment, and eventually we will each get back our normal share of the total business in our line.

Rock Island County Sheet Metal Men Appoint Convention Committee for 1928

Delegates to the 1928 convention of the Illinois Sheet Metal Contractors' Association, to be held in Rock Island, Illinois, are assured a well planned meeting.

The Rock Island County Sheet Metal Contractors' Association, who will be hosts to the Illinois state body at that time, have already appointed a committee to cooperate with the Illinois Auxiliary, according to Sam P. Burgess of the Rock Island Register Company. This committee consists of the following named men: J. J. Burgess, Chairman; S. P. Burgess, William Bertelsen, Oscar W. Schmidt.

Prest-O-Lite Co. Sells Storage Battery Branch to Newly Organized Company

The Prest-O-Lite Co., Carbide and Carbon building, New York city, announces the sale of the storage battery branch of its business to a new company, Prest-O-Lite Storage Battery Corporation. The entire capital stock of the purchasing company is owned by the Automotive Battery Corporation of New

*Address of J. B. Roberts, Assistant General Manager of Sales, The Youngstown Sheet and Tube Company, Youngstown, Ohio, before the delegates to the Metal Branch meeting of the National Hardware Association of the United States at the Hotel Cleveland, Cleveland, Ohio, May 5 and 6, 1927.

York. That portion of the Indianapolis plant of The Prest-O-Lite Co., Inc., used for the manufacture of storage batteries has been leased to the new company.

The Prest-O-Lite Co., Inc., while discontinuing the battery branch of its business, will continue the manufacture and sale of acetylene gas for use in the oxy-acetylene process of welding and cutting metals, automobile lighting, lead burning, etc. These operations have, in the past,

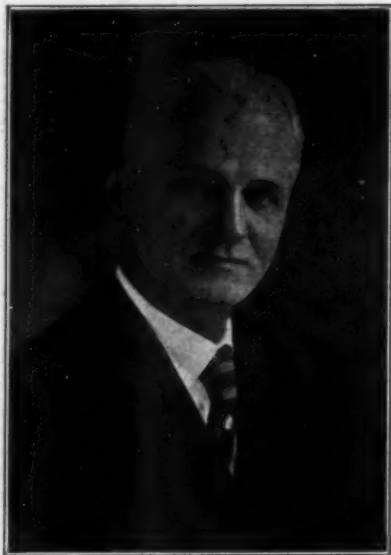
constituted the major portion of its activities.

In addition to the continuing its acetylene business, involving the operation of thirty-two acetylene plants, located in industrial centers throughout the country, The Prest-O-Lite Co., Inc., will continue operation of that portion of its Indianapolis plant devoted to the manufacture of gas cylinders, acetylene generators and other apparatus of similar nature.

Paul L. Biersach Allies Self With Friedley-Voshardt Company

*He Will Represent That Company in Wisconsin—
Is President National Sheet Metal Contractors*

PAUL L. BIRSACH, formerly with the Consolidated Sheet Metal Works, Milwaukee, Wisconsin, has allied himself with Friedley-Voshardt Company, Chicago, makers of architectural sheet metal ornaments, and will represent that company throughout the state of Wisconsin, with headquarters at Milwaukee.



Paul L. Biersach

Mr. Biersach needs no introduction in the sheet metal trade in Wisconsin, or anywhere in the United States for that matter. He was one of the organizers of the Master Sheet Metal Contractors' Association of Wisconsin and is now one

of the Board of Directors of that progressive organization.

His work on the important committees of the National Association of Sheet Metal Contractors won for him the election to the presidency of that organization at the Dallas convention last month.

There is no phase of the sheet metal industry which Mr. Biersach does not understand. He has spent the greater portion of his life thus far in it, and his heart and soul are wrapped up in that business.

The Friedley-Voshardt Company are exceedingly fortunate in being able to acquire the services of Mr. Biersach as their representative in the state of Wisconsin.

Mr. Biersach, who visited the offices of AMERICAN ARTISAN last week, gave assurance that the National Association of Sheet Metal Contractors will push to successful conclusion the important work it has had under way for the past several years. Other new projects are also under consideration.

Oxweld Acetylene Co., Newark, N. J., Will Erect 3-Story Building

The Oxweld Acetylene Company, 640 Frelinghuysen Street, Newark, New Jersey, has let general contract to John W. Ferguson, 152 Market Street, Paterson, New

Jersey, for a three-story plant at 646 Frelinghuysen Street. C. K. Bryce is president.

George H. Charls Made President Hiner Structural Steel Company

George H. Charls, formerly president and general manager of the United Alloy Steel Corporation, Canton, Ohio, has been made president and treasurer of the Hiner Structural Steel Company, that city. Other officers are Dan P. Hoover, vice-president; John Quinn, secretary, and Guy Hiner, general manager. Paul Beldon was made a director.



Hess Medicine Cabinets

From Carlinville Hardware Company, 131 North Broad Street, Carlinville, Illinois.

Please advise us who manufactures Hess Medicine Cabinets.

Ans.—Hess Warming and Ventilating Company, 1207 South Western Avenue, Chicago, Illinois.

Metal Chasing Tools

From Walter H. Ziegler, 207 North Hackley Street, Muncie, Indiana.

Kindly inform me where I can purchase metal chasing tools to be used for making ornamental things, such as flowers, chandelier trimmings, etc.

Ans.—William Dixon, Incorporated, 3236 East Kinney Street, Newark, New Jersey.

Pneumatic Tube Systems

From L. R. Hamman, 507 East Prairie Avenue, Decatur, Illinois.

Please inform me where I can purchase long sweep elbows used for money conveyors, made of aluminum or other metal. The pipe to be 2 1/8-inch diameter, using elbows of about four-foot radius.

Ans.—Samuel Olson and Company, 2426 Bloomingdale Avenue, and The Sampson Company, 216 West Monroe Street, both of Chicago, Illinois.

Random Notes and Sketches

By Sidney Arnold

"The essence of humor is sensibility; warm, tender fellow-feeling with all forms of existence."—Carlyle.

Wanted to See the Other Guy

Harry Neal, the Neal end of the Hall-Neal Furnace Company, was feeling rather pessimistic one day and found himself dining alone in a restaurant. He ordered broiled live lobster. When the waiter put said lobster on the table it was obviously minus one claw. Mr. Neal promptly kicked. The waiter said it was unavoidable—there had been a fight in the kitchen between two lobsters. The other one had torn off one of the claws of this one and had eaten it. But in spite of this, Harry pushed the lobster away from him.

"Take it away," he said, wearily, "and bring me the winner."

* * *

Here's that R. S. (Tommy) Thompson of the Mt. Vernon Furnace Company gave me while in Indianapolis during the recent convention:

At the Extreme Rear

Up toward Chateau Thierry in the big shove of 1918, a brigade commander of the A. E. F., temporarily separated from his staff, was making a sort of private reconnaissance toward the front. It was night time. Directly ahead of him, he knew, was a Negro infantry regiment, now under fire for the first time. The fighting was quite sharp and the lone investigator was minded to find out how the green troops were acquitting themselves.

All at once he encountered a straggler. Perhaps it would be unfair to refer to this person as a straggler, for at the moment of his appearance, lunging out of the darkness, he was giving a spirited imitation of a footracer.

"Halt, there!" shouted the outraged brigadier.

The fleeing private slowed up.

"What do you mean by running away in this disgraceful manner?"

"Boss," quavered the black man, "I ain't been aimin' to run away, but these yere feets of mine jest natchel-

ly carried me out of dat mess up yonder."

"Well, you face about and rejoin your company immediately."

Reluctantly the unhappy soldier reversed himself and started to obey. Then he hesitated and, over his shoulder he put a question:

"Who is you, to be givin' me dese yere awders? You ain't no cap'n is you?"

"I am the general commanding this brigade—that's who."

"Lawdy me!" quoth the darky, half to himself. "I sho' must a' run a long ways to git clear back to where the gen'l's stay!"

* * *

Personal Experience

The teacher in a high school English class at Indianapolis had asked the pupils to write an editorial for the following day, and in giving suggestions had said that "puppy love" would be an interesting topic to work up. Little Miss Mattingly, Joe's daughter, in the class, who was busy copying the assignment when the above statement was made, looked up and innocently inquired: "Does it have to be a personal experience?"

* * *

Once there was talk of importing some Belgian workers to a certain part of the south around Atlanta, Georgia, and an old negro hearing about it, approached his employer, S. P. Moncrief, to ask about it. Imagine Mr. Moncrief's surprise when the old darky said, "Dese here Belgians, are dey white folks?" "Yes, indeed, Sam," said Mr. Moncrief, "what do you think about our bringing them over?" Sam shook his head dubiously. "Us niggers has got about all de white folks we can support down here now," he finally said.

* * *

Frank Ederle, secretary of the Michigan Sheet Metal and Roofing Contractors' Association, has the

habit of leaving his umbrellas at the office. One morning as he was going to business he sat next to a young lady in the trolley car. (Oh yes, Frank rides the trolley cars occasionally.) As he rose to get out, being deeply absorbed in thoughts of how he could make the Michigan men sell more Michigan Standard, he absent-mindedly picked up the young lady's umbrella. She quickly reminded him of the ownership of the umbrella. Frank was quite embarrassed. That night he decided to take all of his umbrellas home with him. When he got into the car, there sat this same young lady. She leaned forward, as he passed, and said in a low tone, "I see you did pretty well today, after all."

* * *

A gentleman of a very excitable and emotional nature had the misfortune to lose his third wife. He took the affliction very much to heart, and at the grave was so overcome that he fainted. His friends gathered around him and were fearful for his life. Among them was a German who spoke English brokenly. He stooped down and felt the gentleman's pulse, and, looking up, said: "He's all right; he'll rewive."

* * *

Charlie E. Glessner, of the Excelsior Steel Furnace Company, Chicago, was a guest at Pinehurst a short time ago when he happened upon an old negro who was beating down dried cotton stalks.

"Uncle, what did the boll weevil do to you this past year?" inquired Charlie.

The old darky replied: "Lawdy, boss, dey wuz de wust here dat dey has ever been. Why, one night I was awoke from my rest by sech a noise dat I aint never heard the like of before. I takes my lantern and goes out in dat patch over dere, and what do you suppose I found?"

"I have no idea, Uncle. What was it?" inquired Charlie again.

"Lawdy, Cap, de old pappy boll weevil had a big stick beatin' all de little boll weevils because dey wouldn't take two rows at a time."

The Editor's Page

Reducing Wages Curtails Purchasing Power

SECRETARY OF LABOR JAMES J. DAVIS recently made some very pertinent remarks in an article for the benefit of the Policy Holders' Service Bureau of the Metropolitan Life Insurance Company, which will apply to sheet metal and warm air heating contractors, as well as to the employers of labor to whom they were directed.

The burden of Mr. Davis' remarks was that the practice of cutting wages and laying off workers as a means of offsetting business depressions is entirely uneconomic. It was Mr. Davis' opinion that to lay off men or to reduce wages, in order to counteract business depression, is to aggravate the disease rather than to alleviate it. And in this opinion he is absolutely correct. The stability of prosperity depends upon payroll stability.

There are in this country at the present time some 25,000,000 wage earners—people who are dependent upon their wages for their own livelihood and that of their families. There are approximately 6,000,000 more working on salaries. Added to these two groups are about 10,500,000 others gainfully employed, making a grand total of the people employed in this country about 41,500,000.

The buying power of the country, then, is confined within this area of 41,500,000, 69 per cent of which is represented by the salary and wage earning group. It is these forty-one million who are receiving the money with which to buy products and services. Within this group you must seek for prospects for warm air heating systems, for sheet metal roofing and other work.

If we accept that as being true, we must also concede that the foundation of prosperity is production, and that the foundation of production is purchasing power. From this it is readily seen that to cut wages or to discontinue them altogether is to reduce the purchasing power of that group of people from whom the orders for your services and products must come.

In the past business men have followed the line of reasoning that by reducing wages they are relieving the drain on the firm, looking at wages only as a necessary evil. But they fail to realize that in so doing they are also reducing the volume of possible business that they can do because of the curtailments of their organizations, and that they have reduced the purchasing power of that forty-one million group by just that much.

Now, of course, any individual who expresses opposition to any existing practice, in order to get a hearing at all with the intent of bringing about remedial changes, must necessarily offer some constructive alternative plan of action. And the alternative offered by Mr. Davis is to direct greater effort towards stimulating sales and creating new markets for your products and services.

In the past, and even now for that matter, the sheet metal contractor has depended for his business entirely too much on having the business come to him through the accepted channels. That is, waiting with hat in hand until some potential customer decides he wants your service. This must be changed.

There is a great deal of business to be had by the sheet metal contractor who will go out in the proper manner and get it. There is no law which prohibits a sheet metal contractor from analyzing the processes of manufacture of the several manufacturers in his and surrounding towns, with the object of suggesting to these manufacturers ways and means by which they can save time and labor by using sheet metal. This method of creating new business has been pointed out many times. It is the only effective method of getting more new business, as was well exemplified in the case of the Goethal Sheet Metal Works, Milwaukee, which appeared in *AMERICAN ARTISAN* April 23, 1927.

The most effective method of avoiding times of depression is to put forth the greatest sales effort when the pendulum appears to be swinging toward depression, thus increasing rather than decreasing the buying power of the buyers.

Don't Miss the Western Warm Air Meeting

YOU as a warm air furnace installer, a furnace salesman, a jobber or a manufacturer have undoubtedly at some time or other wished yourself face to face with your furnace manufacturer, jobber or installer so that you might unload one or many of your grievances against him in his presence.

That privilege is going to be accorded to you at the Peoria meeting of the Western Warm Air Furnace and Supply Association, June 1 and 2. In fact, you will have the privilege of not only stating your grievances, but the pleasure of stating them in the presence of a large group of manufacturers, jobbers, salesmen and installers.

This is the first time in the history of the Western Warm Air Furnace and Supply Association that that organization has extended an invitation to all factors in the manufacture, distribution and installation of warm air furnaces to meet together for the purpose of knitting more closely together all these factors; of promoting a better understanding of the problems that confront the industry and of finding ways of ironing out the difficulties encountered.

The meetings will be educational as well as social. Peoria is within easy reach of the territory from which the association's membership is drawn. All furnace men are going to profit greatly from their attendance at this meeting. Be sure that you do not miss it.

Determining Most Efficient Warm Air Leader Connections to Furnace*

Pipes Taken from Bonnet Over Furnace Front Cannot Be Expected to Function Efficiently

By JOHN S. WALKER, Heatcraft Institute, Peoria, Illinois

IN WARM air heating the only thing that carries the heat is the current of air. Where the ash pit and combustion chamber extend through the front they block the flow of air. For this reason heat



Figure 12

pipes that are taken off over the furnace front, (A) figure 12, can not be expected to perform as well as those taken off the sides and rear.

In case the taking of a pipe off

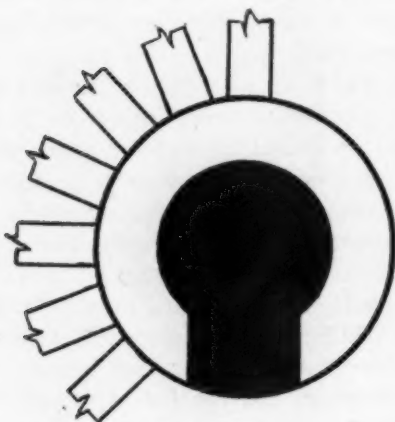


Figure 13

over the furnace front is absolutely unavoidable, the top of the bonnet should be flat (instead of concave) and as high as possible. This will permit some air to pass over the dome from the sides and rear.

*All rights reserved.

Taking all the heat pipes off one side of a furnace has much the same effect as putting all the cold air in on one side. To get a current of air to flow over the castings on each side there must be outlets as well as inlets. The furnace shown in figure 13 will perform much below its standard rating.

An ideal arrangement of warm air pipes is shown in figure 14. Every heat pipe now has an opportunity to deliver according to the expectations of the Standard Code, providing cold air connections are made in accordance with suggestions in previous article. If centrally located, this furnace will deliver its greatest capacity.

Considerable study of a plan is often required to bring about the

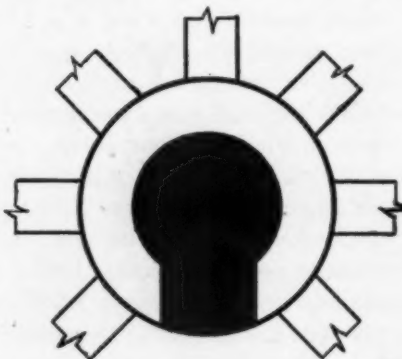


Figure 14

ideal arrangement shown in figure 14. Often the furnace feed door will not directly face the fuel room, but good design is of primary importance. Consider no other arrangement than the one that will heat the house best.

Excellent results are obtained where pipes are taken from top of bonnet as shown in figure 15. Owing to the added head room required this bonnet is not in general use.

Less head room is required to install a bonnet with side outlets as shown in figure 16. It will be noted

that the top of the hood is concave instead of flat. The tops of all the

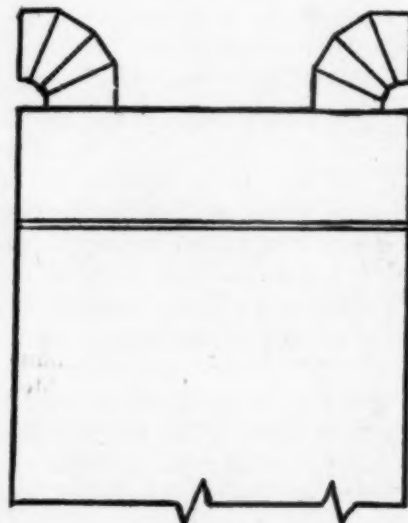


Figure 15

side collars should be at the same level.

Best results are not obtained

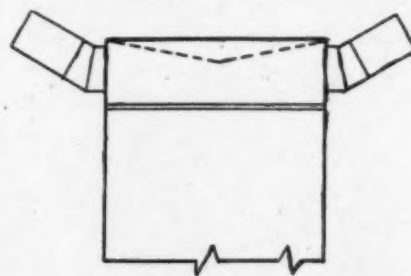


Figure 16

where pipes are taken from both top and sides, as shown in figure 17.

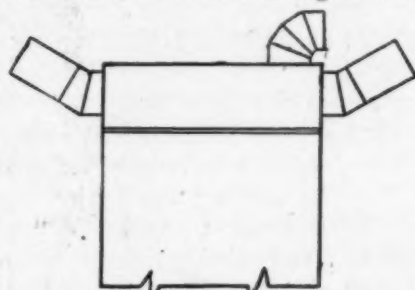


Figure 17

The pipes taken from the top will unbalance the flow of heat to the pipes taken from the sides.

Selling Heating Service Instead of Just Heating Systems

Knowing Facts About Heating Makes Talking to Customer Easy and Profitable

By J. C. MILES

THIS article is intended to put into the minds of the furnace salesmen, facts pertaining to the relative merits of different heating propositions encountered in competition. The economic points brought out are scientific facts, backed up by the best authority, instead of the usual sophistry and misstatements, the products of ignorance of the actual facts.

There is no thought of the old time furnace man reading this over once and going out and trying to use it. The purpose is to give him something he can study thoroughly so that he may become conversant with the example in economy given; then work out an example of his own, familiarizing himself with the figures so that the calculations may be made rapidly or the answers given promptly. Figures are not cumbersome if the answers are immediately available. Take a pencil and piece of paper. Write down the figures and answers rapidly, then leave them with the prospect. This sort of thing is impressive.

Serial No. 1

"Mr. Brown, I should like to talk with you regarding the heating of your home. If you say you are not very much interested, except that you want someone to guarantee to give you a good job, you leave the field wide open, and subject yourself to any one of a hundred eventualities.

"What I should like to talk about is heating service. In reality you do not want to buy a heater, although the heater is a component part of your scheme of things. What you want is service, comfort and economy. These three points make it obligatory to use intelligence in selection and design, whereas a heating system can mean any one of a hundred guesses on the part of

a heating contract." Let me explain just one point—that of economy.

"The Standard Code allows 35,000 heat units as a maximum for

In this article J. C. Miles, Vice President of the Warm Air Furnace Fan Company, has given the warm air furnace installer a sales approach "packing in real punch" that will deliver the K. O. blow to any objection the prospect can have to the warm air heating system.

In order, however, to use these facts with the most effectiveness, the furnace installer should study them over carefully, so as to get them well in mind. The idea back of a sales effort of this kind is to convince the prospect that you know your stuff and that you have "the" product.

This article leaves the prospect with the figures in his hand. The second article of this series, which will appear shortly, continues the selling talk after the prospect has had a chance to check up on the figures on fuel costs. To get the most good from the article, it must be studied diligently.

each square foot of grate area in an ordinary furnace, but as a matter of fact, by forcing the heater, we can get 50,000 to 60,000 heat units from the same grate area.

"Now, if your house has a heat loss of 105,000 heat units, to heat that house the Standard Code calls for a furnace having three square feet of grate area; whereas a furnace with two square feet of grate area would do the job. Now let us stop here and see just what this

means to you after you accept the system.

"The furnace efficiency at the proper combustion rate is about 60 per cent, so if 105,000 heat units represent 60 per cent of the heat in the coal, then the coal content would be 175,000 heat units, and if each pound of coal is rated at 12,500 heat units, it would take fourteen pounds of coal to keep the house warm an hour on a zero day. This then would be 336 pounds per day and for 200 days, which would mean 65,200 pounds, or about 32 tons of coal if every day and every hour were zero. But this is not the case, the average temperature is about 40° above the estimated low temperature, so the temperature difference would average 30°, instead of 70°. Our coal consumption would be 30/70 or 3/7 or 32 tons, which is 13.7 tons for the entire year. This is theoretical, but very nearly correct, except for some further economy which may be had by carrying a lower temperature at night or when absent.

"Now as to the cost. Let us say we use hard coal and it costs \$12.00 per ton (this is a low price for hard coal), $12 \times 13.7 = \$164.50$. Let us keep this figure in mind and compare it with the heating job with 2 square feet of grate area. If we get 50,000 heat units from an ordinary furnace, we have to burn ten pounds of coal to each square foot of grate area; then we have twenty pounds per hour, instead of fourteen; or 480 pounds per day, instead of 336; or 96,000 pounds per year, instead of 65,200; or 48 tons instead of 32 tons. Using the average of 30° temperature difference, we have 20.5 tons, instead of 13.7, then at \$12.00 per ton, we have paid \$246.00 for coal. The economic loss is the difference be-

tween \$246.00 and \$164.80, which is \$81.20.

"Now for argument sake, let us say you save \$400 in the first cost. This may be a little high, but there is more difference than just the cost of the furnace, because a Standard Code job carries with it all the other scientific requisites. Here then, we find \$81.20 to be more than 20 per cent on the additional cost. These are facts, Mr. Brown, and as you will see, are quite significant from an economic standpoint. They are from a theoretical hypothesis true, but both sides are from the same assumption which makes plain the comparison and proves an enormous economic waste under the guise of economy in first cost.

"Just look at this thing from a purely economic basis. Suppose I were a bond salesman offering you a bond that pays 20 per cent annually on the investment. If you had proper guarantee of safety principle you would be living in a flat and putting your money into these bonds, wouldn't you?" In reality Mr. Brown, you should not buy a heater for your house. You should invest your money in heating service. Moreover, we should not overlook the fact that economic service is not all that a Standard Code job represents. It also represents a comfort, convenience and satisfaction, in direct proportion to the comparative economic difference.

"If you want to go to Chicago, you pay, not for the engine and cars, you pay for the service. If this were not true, the fare to Kansas City would be the same as to Chicago, because it could be the same engine and cars. Service is what we buy, and if we could be taken only to Chicago when we want to go to Kansas City, we are not getting service.

"Unless you make up your mind to buy service instead of a heater, I maintain that you will be buying instead of investing, and surely investing is the wiser policy.

"You say you had intended buying a radiator system, because you

thought your house is too large for a warm air system?

"My answer to that statement is that you are first overlooking the qualities of health and comfort due to convection heat and air motion, and as for your house being too large for warm air, I should have agreed with you a few years ago, but now we use forced air systems for houses of above 15,000 feet cubical content, or where it is necessary or desirable to place the furnace where the basement pipe is more than 12 or 15 feet long. The forced air system will effect still another economy wherein the furnace efficiency is 70 per cent, instead of 60 per cent, or 40 per cent as the case may be. By the same calculation a forced air system would use only about 11 tons and the net savings over a competitive job would be \$133.00 per year, or almost 30 per cent on \$400 difference in first cost.

"This is surely food for thought, Mr. Brown, and I will leave this thought with you along with the figures, so that you can thoroughly analyze them. The more you analyze this thing, the more you will be convinced that the wise plan is to invest in heating service.

"I will be back and see you in a few days and explain how convection heat, humidity and air motion relate to health and comfort. If you happen to have an eighth grade text book, I will prove beyond all doubt that convection (warm air) heat is the heat nature intended for animal life.

"I know I can convince you that radiator heat is an unnatural heat and not for home heating."

(To be Continued)

University of Illinois Circular No. 15 May Be Obtained from U. of I.

On page 67 of the May 14th issue of AMERICAN ARTISAN there appeared an announcement that the University of Illinois Circular No. 15 is now off the university press and is available for distribution. In this announcement, however, it was stated that applications for copies of

this Circular No. 15 should be made to the Secretary of the National Warm Air Heating and Ventilating Association only. This was in error, as Professor V. S. Day, the author of Circular No. 15, states that copies of this circular may also be obtained from the mailing office of the University of Illinois Engineering Experiment Station, Urbana, Illinois.

F. A. Sutherland Appointed Official Measurer of Furnaces for the Association

During the convention of the National Warm Air Heating and Ventilating Association it was announced that F. A. Sutherland of Saginaw, Michigan, had been appointed as Official Measurer of Furnaces for the association. He spent the last week of April and the first week in May at the University of Illinois figuring with the Research Staff and will start his rounds soon.

While Mr. Sutherland will be routed in order to save time and money, it should be borne in mind that the results of his measurements will be distributed at the same time to all the manufacturers whose goods he has measured. This information will be confidential with the owner of the goods, the Research Staff and the Research Advisory Committee. Copies will not be furnished to other manufacturers. In other words, the information will be strictly confidential. The Official Measurer is not permitted to furnish advance copies of his data to manufacturers.

Waterloo, Iowa, Sheet Metal and Hardware Men Preparing for Summer Outing

The Hardware and Sheet Metal Dealers' Association of Waterloo, Iowa, at its regular monthly meeting appointed a committee to make arrangements for a picnic to be held during the summer, according to A. A. Roeder, secretary. Arrangements were also made for the showing of a moving picture of the manufacture of sheet copper.

Michigan Swings Into Line to Support and Promote Standard Code

State Body to Have Code Incorporated Into Urban Building Codes

ON APRIL 28, a meeting of the warm air furnace dealers and sheet metal contractors was called in the office of the Homer Furnace Sales and Service Company, Flint, Michigan, to discuss the advisability of forming an association to promote the welfare of the heating and sheet metal industries, according to Frank Ederle. Assistant Secretary D. H. Ederle arranged for and had full charge of the meeting.

After careful consideration it was decided to form an organization. E. E. Karrer was selected President; F. E. Westover, Vice-President, and M. J. Murphy, Secretary and Treasurer. A meeting was called for the following Thursday night. At this meeting four new members was admitted to membership, making a total of thirteen members. Plans were discussed concerning proper publicity of the Standard Code, and it was decided that at the next regular monthly meeting some definite action would be taken along this line.

For the past several months, officers of the Michigan Sheet Metal and Roofing Contractors' Association, assisted by a committee consisting of manufacturers and furnace installers, have been active in an endeavor to effect an organization of warm air heating contractors to promote the welfare of this industry. Many committee meetings have been held toward this end.

On Wednesday night, May 4, a general meeting was held in the Detroit Engineering Society Building, and the response was greater than the most optimistic hopes of the committee. One hundred and fifteen dealers, manufacturers, fitting dealers and salesmen attended.

J. L. Fuller, chairman of the committee, opened the meeting with very appropriate remarks, and pointed out the possibilities of associated ef-

fort. He next introduced H. E. Doherty, Detroit Safety Furnace Pipe Company, who gave a very interesting talk about the present furnace conditions and their possible solution.

Arthur Lamneck, of Columbus, was next introduced and gave a masterful talk concerning the National Standard Code. The meeting was then given over to a general discussion, and it was decided to hold another meeting in about two weeks, at which time it is expected that a permanent organization will be formed. Thirty-nine signatures of endorsement were secured. This with former signatures make a total of fifty-two, which practically insures the success of this venture.

"It is the policy of the Michigan organization," said Mr. Ederle, "to use its influence throughout the state of Michigan to promote the adoption and the use of the Standard Furnace Code. Steps have already been taken through the local associations, supported by the state body, to have the code written into the building codes of the principal cities of Michigan."

Although nothing definite, in the way of plans, has been done with regard to the Michigan outing, it is quite certain that the outing will be held in Cleveland, with a side trip to Akron, Ohio. It will be in the nature of a boat trip leaving Detroit Thursday night and returning to that city by boat Sunday morning. Full details will be published when these have been arranged.

Dr. Dinklespiel Formerly Sheet Steel Tester in Indianapolis

B. H. Epperson, 2427 Robertson Avenue, Norwood, Ohio, sent me a communication the other day which was inspired by the sight of

the picture of our mutual friend, Dr. Otto von Dinklespiel, which appeared in the May 14th issue of AMERICAN ARTISAN. Here's what he says:

"Have just read your interesting article in the last issue of your good magazine regarding my old friend and comrade, Dr. Otto von Dinklespiel, Ddl., Spc., Lb., and enjoyed it very much. I met this man some twenty years ago at Indianapolis, where he was then making some wonderful tests of sheet steel. He may have just landed in this country, as he then wore the beard and other van dyke style whiskers and spoke broken English when he had a little too much under his belt, and in this instance will say that he still owes me a new hat, a dicer, for the one he caved in one time when he had too much under his wing.

"He was a great student of chemistry and conducted a laboratory in the rear of the metal house, where he was testing for the purity of sheet steel. I have often wondered if he was successful. He made tests on every kind of sheet steel that was made at the time and tried to find out some of the things that were supposed to be and not to be in the modern sheet steel.

"The Doctor had all kinds of pans, bottles, hog troughs, acids and what not in this laboratory to carry on his work, but I have never heard of his tests or any of the reports to date. It would be interesting reading to have the Doctor write of these tests and tell something about his wonderful knowledge of sheet steel and, as he used to say, the purity and virgin of sheet steel.

"It may be that he will write some articles for your magazine regarding sheet steel and his discovery made some years ago, and, of course, have the articles not too

technical or in Vermany. Good luck to the Doctor and may he keep up his good work while we have prohibition."

Friedley-Voshardt Comes to Housewives' Aid With Electric Dishwasher

Washing dishes is probably one of the greatest abominations of housekeeping, and yet for sanitary reasons it is one of the most necessary tasks. Therefore any device or mechanical contrivance that aims to make this task less odious is sure of a hearty welcome from housewives and thoughtful husbands.

Friedley-Voshardt Company, Inc., Chicago, have recently perfected what is termed by them as the Kleen-Kwick electric dishwasher. This washer is so constructed that it employs the water from the sink faucets. It is entirely waterproof, so that there is no chance for the water to get out onto the floor.

The washer is mounted on a white Duco finish table, having two convenient working shelves. This table is so arranged that when the washer is not in use, it is turned down under the table, where it is out of the way, leaving the table top free for other uses.

Here's an excellent sales argument:

"WASH DISHES WELL TO GUARD AGAINST FLU, SAYS BUNDESEN"

Extreme precautions to prevent the spreading to this country of the present European influenza epidemic were urged yesterday by Health Commissioner Herman N. Bundesen.

"Influenza often gets a hold upon a community through cooking utensils," said Commissioner Bundesen. "Housewives should be extremely careful in washing the family dishes. Either adequate heat or chlorine should be used to kill any germs that may be present to spread the disease. Restaurant owners must remember influenza is spread most easily in this manner.

"The danger of influenza can not be overestimated. During the 1918 epidemic it was discovered that hand washed dishes were the principal means of spreading the disease to 66,000 soldiers.

"Chicago," continued the commissioner, "is the healthiest city of her size in the world, but even so she should not overlook the danger of spreading influenza here."

Premier Warm Air Heater Enlarges Manufacturing Plant

The Premier Warm Air Heater Company, Dowagiac, Michigan, re-

cently christened a new addition to its plant at Dowagiac. This addition to the already large plant of the company increases its facilities for the manufacture of Premier warm air heaters 36 per cent.

The company has warehouses located at Portland, Ore.; Denver, Colo.; Des Moines, Iowa; St. Paul, Minn.; Pittsburgh, Penna.; Cincinnati, O., in addition to the factory warehouse in Dowagiac.

Hart & Cooley Moves Chicago Office to 61 West Kinzie

The Hart & Cooley Company will move its Chicago office from 73 East Lake Street to 61 West Kinzie Street on Monday, May 23. The new location gives the company more convenient facilities for quick shipment of products to its customers.

Niagara Machine & Tool Works to Build 1-Story Factory Addition

The Niagara Machine & Tool Works, 637 Northland Avenue, Buffalo, New York, is having plans drawn for a one-story machine shop addition by H. E. Plumer & Associates, 775 Main Street, Buffalo.

Retail Hardware Doings

Indiana

Jacob F. Pansing has purchased the hardware store of Henry Scramm, Portland.

Iowa

J. E. McBride, Gilmore City, has purchased the hardware stock of T. A. Mair.

H. L. Klocow has sold his interest in the K. and K. Hardware Company to Charles Kilgore, Estherville.

Kansas

Mrs. N. W. Weber of Wilson has purchased the Weber and Company Hardware Company.

Oklahoma

Mrs. E. Nash has opened a new hardware store at Freedom.

Wisconsin

The Esser and Schmidt Hardware Company, Hartford, are building a 34 by 40-foot addition.

The Schneider Hardware Company, Oconto, was destroyed by fire.

Leo Skupniewitz and Ernest Claus have purchased the hardware business of Henry Ramthun, Kewaskum.

J. E. Fawcett of Platteville has sold his hardware business to H. Concklin.



The Dish Washer

Henry H. Beers, Widely Known Southern Hardware Salesman, Dies

Passed Away at His Richmond, Virginia, Home at Age of 86

HENRY H. BEERS, who up until the time of his retirement in 1915 from active business was the most widely known hardware salesman in the Southern States, died at his home, 900 West Franklin Street, Richmond, Virginia, May 15, 1927.

Mr. Beers was born November 16, 1840, six years prior to our war with Mexico, nine years before the California gold rush and twenty years prior to the Civil War.

He was a soldier in the Confederate Army, having enlisted in Stonewall Brigade under General Stonewall Jackson. Following the close of the war, he went to New York to seek his fortune, and his first position was with a hardware firm on Barklay Street, New York City, Chicester & Company.

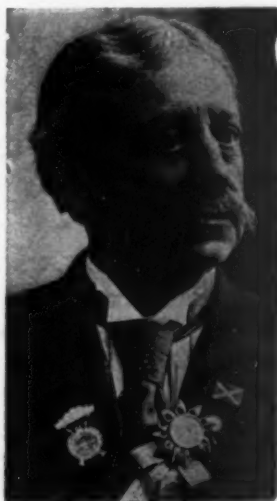
Later he traveled as a salesman for Beam & Murray, large importers of New York, and his customers were the jobbers in the great undeveloped Empire lying between the Allegheny and Rocky Mountains and the Great Lakes and the Rio Grande River.

Still later he represented Weibusch & Hilger in the Southern States, and about the year 1890 he became a manufacturers' agent, representing many standard factories. After a few years he formed a partnership with Guy Mitchell, of Atlanta, and under the firm name of Beers and Mitchell, until his retirement in 1915, they commanded a strong following among the hardware jobbers of the South.

Harry Beers, as he was called by an army of friends, was a man of most unique personality and his entré into any company immediately made him the center of attraction, and because of his genial disposition soon made friends with all those with whom he came in contact.

When the Southern Hardware Jobbers' Association was formed, Mr. Beers was made sergeant-at-arms and he continued to serve them in that capacity with diligence and efficiency as long as his health would permit. He was honored by them with appointment of sergeant-at-arms for life.

When Fred M. Huggins organized the Old Guard, 1908-1909, he selected Mr. Beers as his first president, recognizing him as the dean of the hardware salesmen in the South. He served as its first president and was chairman of the Advisory Board to the time of his



Henry H. Beers

death. He was deeply interested in the welfare of the association and was its old nestor.

He was a man of integrity, without a superior as a salesman, and by wise investments was able to retire with a competency and provide handsomely for his children.

Armour Metal Products Company Organized to Manufacture Sheet Metal Products

The Armour Metal Products Company, Cincinnati, Ohio, has been organized to manufacture steel metal products. E. Bott is the

president of the new company. A one-story plant will be erected in the immediate future on Straight Street.

Frank E. Anderson Has Pulling Power of "Artisan" Demonstrated to Him

Here's what users of AMERICAN ARTISAN want ad service to say about that service. Frank E. Anderson, 2242 Liberty Avenue, Terre Haute, Indiana, says: "Please pull out my advertisement, listed as W-12. The pulling power of an advertisement in AMERICAN ARTISAN has been most forcibly demonstrated by the large number of replies received by me to date, and I shall be pleased to mention this whenever opportunity affords."

Where Is Pal-Weld Manufacturing Company Located?

TO AMERICAN ARTISAN:

Kindly give us the address of the Pal-Weld Manufacturing Company, formerly located at Seattle, Washington.

FEY & FEY,
Odd Fellow Building,
Delavan, Wisconsin.



Western Warm Air Furnace & Supply Association, June 1 and 2, 1927, Peoria, Illinois. John H. Hussie, Secretary, 3624 La Fayette Avenue, Omaha, Nebraska.

National Association of Credit Men, Louisville, Kentucky, June 6 to 10, 1927. F. S. Hubbell, Manager Public Relations Department, 1 Park Avenue, New York City.

Mississippi Retail Hardware and Implement Association Convention and Exhibition, headquarters, White House, Biloxi, June 13, 14, 15, 1927. Buy Nason, Secretary, Columbus.

National Retail Hardware Association Congress, Mackinac Island, Michigan, June, 1927. H. P. Sheets, Secretary Treasurer, 130 East Washington Street, Indianapolis, Indiana.

Missouri Sheet Metal Contractors' Association at Sedalia, Missouri, July 12 and 13, 1927. Ben Kolbenschlager, 3618 North Grand Street, St. Louis, Secretary.

Little Change Is Shown in Heavy Finished Steel Prices—Interest in Third Quarter Requirements Lacking

Pig Iron Market Is Dull—Buying in Nonferrous Metals Lags

DEMANDS of the railroads and the automobile industry are conspicuous in an iron and steel market which, true to May form, continues the temperate declines from the recent peaks in sales and production. Rates, however, still approximate those of last May.

New sheet prices are, in the main, holding although inquiries to afford a real test have not developed. Production improved slightly the past week due largely to heavier automotive specifications.

Sales of semifinished steel for June delivery promise to exceed those for May, as the carry-over of consumers into June will be lighter than it was into May. Specifications for spot material have broadened. Interest in third quarter requirements has not yet appeared.

Recent orders for soft steel bars, especially at Chicago, do not quite measure up to consumption, indicating users are operating on still narrower stocks. Bookings of structural shapes by Pittsburgh district makers are considerably in excess of the April rate. Tank work placed at Chicago calls for 4,000 tons of plates. Heavy finished steel prices show wide variations between districts, but in general are unchanged. Buyers are pressing for concessions.

Pig Iron

Demand for pig iron at Pittsburgh is dull, furnace interests lacking inquiries and sales. Steel-making grades are definitely at the minimums quoted last week, based on prices received by a nearby sheet interest from valley producers, namely \$18, valley, for basic and \$19 for bessemer.

Foundry and malleable sales are small at \$18.50, valley. Users of low phosphorus iron are protected

for the remainder of first half and are not interested in last half requirements.

At Chicago several inquiries for third quarter pig iron have appeared in this market. Buying for that period, except for a few large orders, has been extremely light. Spot buying is slow, and insufficient to test prices. While a few foundries report good activity, the melt on the whole in this district is reduced. Shipments are even with last month, but considerably behind a year ago.

The price is steady at \$20, Chicago furnace, for No. 2 foundry and malleable. Several sales of charcoal iron have been closed at \$27.04, delivered.

Pig iron market conditions at Birmingham are steady. Quotations are firm at \$18, base, Birmingham. Not much business has been booked for third quarter. Ten blast furnaces are on foundry iron.

Copper

Copper sold at 13.00 cents, Connecticut, the past week and $\frac{1}{8}$ to $\frac{1}{4}$ -cent more, Midwest. About a week ago buying was fairly large and some producers showed signs of pulling away from this price, but about the same time the mills began to show less interest than had been expected, and so a rise did not follow through.

Some buying had been done in anticipation of strong statistics. Mine and smelter output are running about 7,000 tons a month less than a few months ago.

Zinc

Continued lack of business has caused the price of prime Western zinc to slide to 6.02½ cents, East St. Louis. Some smelters were reluctant to go that low, but metal is reported available at the figure, and

higher offerings were not taken. The decline is 10 points in a week and 30 points in a month.

Galvanizers have slack business and are said to have been the most backward of buyers. The ore market is weak and adds to the ease with which metal goes down. High grade metal is reported all the way from 8.00 to 9.00 cents, delivered.

Tin

Tin has gone down nearly 2 cents in a week or ten days. Lack of consumer business and reaction from a bull market are the reasons.

Spot supplies are not quite so scarce as they were, and the prospect is that world visible supplies at the end of this month will not be quite so low as the unusually low point of May 1.

Lead

After two weeks with little change, the lead market has slipped off again. Some buying has been done right along for May, but it was not heavy enough to balance record-breaking supplies from the mines.

Solder

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$41.50; commercial 45-55, \$38.50; plumbers', \$35.50, all per 100 pounds.

Old Metals

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$17.00 to \$17.50; old iron axles, \$21.00 to \$21.50; steel springs, \$14.75 to \$15.25; No. 1 wrought iron, \$11.25 to \$11.75; No. 1 cast, \$14.50 to \$15.00, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 9 cents; zinc, 3½ cents; cast aluminum, 13¼ cents.

Foster-father of welding

IT IS no small honor to be chosen as a Linde service man. These operators and engineers have proven themselves by practical welding ability, by capacity to instruct others in the art, by solving problems of production, maintenance and repair and by tactful organization work.

Only picked men could handle the problems they meet. And even these could not do so without years of experience in the field.

This staff of service men has seen welding and cutting technique develop from small beginnings to a fundamental process of production, construction and maintenance in American industry. They have helped new processes to grow and they themselves have often discovered and developed new applications.

They are truly the foster-fathers of welding.

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

General Offices: Carbide and Carbon Building

30 East 42d Street, New York

37 PLANTS 107 WAREHOUSES



LINDE OXYGEN

Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON

Chicago Fdy., No. 2.....	\$20 00
Southern Fdy., No. 2.....	24 01
Lake Superior Charcoal.....	27 04
Malleable	20 00

FIRST QUALITY BRIGHT

TIN PLATES

IC 20x28 112 sheets.....	\$25 10
IX 20x28.....	29 60
IXX 20x28 56 sheets.....	15 20
IXXX 20x28.....	17 55
IXXXX 20x28.....	18 95

TERNE PLATES

IC 20x28, 40-lb. 112 sheets	\$26 00
IX 20x28, 40-lb. 112 sheets	28 50
IC 20x28, 35-lb. 112 sheets	21 75
IX 20x28, 35-lb. 112 sheets	24 25
IC 20x28, 30-lb. 112 sheets	20 60
IX 20x28, 30-lb. 112 sheets	22 50
IC 20x28, 15-lb. 112 sheets	18 50

"ARMCO" INGOT IRON PLATES

No. 8 ga. up to and including

1/2 in.—100 lbs.\$4 55

COKE PLATES

Cokes, 80 lbs., base, 20x28	\$13 60
Cokes, 90 lbs., base, 20x28	13 80
Cokes, 100 lbs., base, 20x28	14 00
Cokes, 107 lbs., base, 1c	
20x28	14 30
Cokes, 125 lbs., base IX	
20x28	16 40
Cokes, 155 lbs., base, 56	
sheets	9 20
Cokes, 175 lbs., base, 56	
sheets	10 05
Cokes, 195 lbs., base, 56	
sheets	10 90

BLUE ANNEALED SHEETS

Base 10 ga.....per 100 lbs.	\$3 50
"Armco" 19 ga.....per 100 lbs.	4 00

ONE PASS COLD ROLLED

BLACK

No. 18-20.....per 100 lbs.	\$3 75
No. 22.....per 100 lbs.	3 90
No. 24.....per 100 lbs.	3 95
No. 26.....per 100 lbs.	4 05
No. 27.....per 100 lbs.	4 10
No. 28.....per 100 lbs.	4 20
No. 29.....per 100 lbs.	4 35
No. 30.....per 100 lbs.	4 45

"ARMCO" GALVANIZED

"Armco" 24.....per 100 lbs.	\$6 15
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GALVANIZED

No. 16.....per 100 lbs.	\$4 30
No. 18.....per 100 lbs.	4 45
No. 20.....per 100 lbs.	4 60
No. 22.....per 100 lbs.	4 65
No. 24.....per 100 lbs.	4 80
No. 26.....per 100 lbs.	5 05
No. 27.....per 100 lbs.	5 15
No. 28.....per 100 lbs.	5 30
No. 29.....per 100 lbs.	5 30
No. 30.....per 100 lbs.	5 70

BAR SOLDER

Warranted	
50-50	per 100 lbs. \$41 50
Commercial	
45-55	per 100 lbs. 28 50
Plumbers	per 100 lbs. 35 50

ZINC

In Slabs	\$8 50
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SHEET ZINC

Cash Lots (600 lbs.).....	\$11 75
Sheet Lots	12 75

BRASS

Sheets, Chicago base.....	18c
Mill Base	18c
Tubing, brazed base.....	17c
Wire, base	19c
Rods, base	16 1/2c

COPPER

Sheets, Chicago base.....	21 1/2c
Mill Base	20 1/2c
Tubing, seamless base.....	24 1/2c
Wire, No. 9, B & S Ga.....	17 1/2c
Wire, No. 10, B & S Ga.....	18c
Wire, No. 11, B & S Ga.....	18 1/2c
Wire, No. 12, B & S Ga.....	18 1/2c
Wire, No. 13, B & S Ga.....	17 1/2c
Wire, No. 14, B & S Ga.....	17 1/2c
Wire, No. 15, B & S Ga.....	17 1/2c
Wire, No. 16, B & S Ga.....	17 1/2c
Wire, No. 17, B & S Ga.....	17 1/2c
Wire, No. 18, B & S Ga.....	17 1/2c
Wire, No. 19, B & S Ga.....	17 1/2c
Wire, No. 20, B & S Ga.....	17 1/2c
Wire, No. 21, B & S Ga.....	17 1/2c
Wire, No. 22, B & S Ga.....	17 1/2c
Wire, No. 23, B & S Ga.....	17 1/2c
Wire, No. 24, B & S Ga.....	17 1/2c
Wire, No. 25, B & S Ga.....	17 1/2c
Wire, No. 26, B & S Ga.....	17 1/2c
Wire, No. 27, B & S Ga.....	17 1/2c
Wire, No. 28, B & S Ga.....	17 1/2c
Wire, No. 29, B & S Ga.....	17 1/2c
Wire, No. 30, B & S Ga.....	17 1/2c
Wire, No. 31, B & S Ga.....	17 1/2c
Wire, No. 32, B & S Ga.....	17 1/2c
Wire, No. 33, B & S Ga.....	17 1/2c
Wire, No. 34, B & S Ga.....	17 1/2c
Wire, No. 35, B & S Ga.....	17 1/2c
Wire, No. 36, B & S Ga.....	17 1/2c
Wire, No. 37, B & S Ga.....	17 1/2c
Wire, No. 38, B & S Ga.....	17 1/2c
Wire, No. 39, B & S Ga.....	17 1/2c
Wire, No. 40, B & S Ga.....	17 1/2c
Wire, No. 41, B & S Ga.....	17 1/2c
Wire, No. 42, B & S Ga.....	17 1/2c
Wire, No. 43, B & S Ga.....	17 1/2c
Wire, No. 44, B & S Ga.....	17 1/2c
Wire, No. 45, B & S Ga.....	17 1/2c
Wire, No. 46, B & S Ga.....	17 1/2c
Wire, No. 47, B & S Ga.....	17 1/2c
Wire, No. 48, B & S Ga.....	17 1/2c
Wire, No. 49, B & S Ga.....	17 1/2c
Wire, No. 50, B & S Ga.....	17 1/2c
Wire, No. 51, B & S Ga.....	17 1/2c
Wire, No. 52, B & S Ga.....	17 1/2c
Wire, No. 53, B & S Ga.....	17 1/2c
Wire, No. 54, B & S Ga.....	17 1/2c
Wire, No. 55, B & S Ga.....	17 1/2c
Wire, No. 56, B & S Ga.....	17 1/2c
Wire, No. 57, B & S Ga.....	17 1/2c
Wire, No. 58, B & S Ga.....	17 1/2c
Wire, No. 59, B & S Ga.....	17 1/2c
Wire, No. 60, B & S Ga.....	17 1/2c
Wire, No. 61, B & S Ga.....	17 1/2c
Wire, No. 62, B & S Ga.....	17 1/2c
Wire, No. 63, B & S Ga.....	17 1/2c
Wire, No. 64, B & S Ga.....	17 1/2c
Wire, No. 65, B & S Ga.....	17 1/2c
Wire, No. 66, B & S Ga.....	17 1/2c
Wire, No. 67, B & S Ga.....	17 1/2c
Wire, No. 68, B & S Ga.....	17 1/2c
Wire, No. 69, B & S Ga.....	17 1/2c
Wire, No. 70, B & S Ga.....	17 1/2c
Wire, No. 71, B & S Ga.....	17 1/2c
Wire, No. 72, B & S Ga.....	17 1/2c
Wire, No. 73, B & S Ga.....	17 1/2c
Wire, No. 74, B & S Ga.....	17 1/2c
Wire, No. 75, B & S Ga.....	17 1/2c
Wire, No. 76, B & S Ga.....	17 1/2c
Wire, No. 77, B & S Ga.....	17 1/2c
Wire, No. 78, B & S Ga.....	17 1/2c
Wire, No. 79, B & S Ga.....	17 1/2c
Wire, No. 80, B & S Ga.....	17 1/2c
Wire, No. 81, B & S Ga.....	17 1/2c
Wire, No. 82, B & S Ga.....	17 1/2c
Wire, No. 83, B & S Ga.....	17 1/2c
Wire, No. 84, B & S Ga.....	17 1/2c
Wire, No. 85, B & S Ga.....	17 1/2c
Wire, No. 86, B & S Ga.....	17 1/2c
Wire, No. 87, B & S Ga.....	17 1/2c
Wire, No. 88, B & S Ga.....	17 1/2c
Wire, No. 89, B & S Ga.....	17 1/2c
Wire, No. 90, B & S Ga.....	17 1/2c
Wire, No. 91, B & S Ga.....	17 1/2c
Wire, No. 92, B & S Ga.....	17 1/2c
Wire, No. 93, B & S Ga.....	17 1/2c
Wire, No. 94, B & S Ga.....	17 1/2c
Wire, No. 95, B & S Ga.....	17 1/2c
Wire, No. 96, B & S Ga.....	17 1/2c
Wire, No. 97, B & S Ga.....	17 1/2c
Wire, No. 98, B & S Ga.....	17 1/2c
Wire, No. 99, B & S Ga.....	17 1/2c
Wire, No. 100, B & S Ga.....	17 1/2c

LEAD.

American Pig	\$7 40
Bar	8 40
Sheet	
Full Coils	per 100 lbs. 14 00
Cut Coils	per 100 lbs. 14 25

TIN

Pig tin	per 100 lbs. \$75 00
Bar tin	per 100 lbs. 76 00

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ASBESTOS

Paper up to 1/16.....	6c per lb.
Roll board	6 1/2c per lb.
Mill board 2/32 to 1/8.....	6c per lb.
Corrugated Paper (250	
sq. ft. to roll).....	\$6.00 per roll

BRUSHES

Hot Air Pipe Cleaning	
Bristle, with handle, each	\$0 85
Flue Cleaning	
Steel only, each.....	1 25

BURRS

Copper Burrs only.....	40-50c
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CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 40
American Seal, 10-lb. cans, net	80
American Seal, 25-lb. cans, net	2 00
Pecora	per 100 lbs. 7 51

CHIMNEY TOPS

Adams' Revolving	
Wt. Doz. Price Doz.	
4 in.....21 lbs.....	\$11 00
6 in.....24 lbs.....	11 50
7 in.....30 lbs.....	13 50
8 in.....33 lbs.....	15 00
9 in.....51 lbs.....	16 50
10 in.....56 lbs.....	18 00
12 in.....68 lbs.....	22 00
14 in.....110 lbs.....	36 00

CLINKER TONGS

Front Rank, each.....	\$0 75
Per doz.....	8 40

CLIPS

Damper	
Acme, with all tail pieces,	
per doz.....	\$1 25
Non Rivet tail pieces,	
per doz.....	25

COPPERS—Soldering

Pointed Roofing

3 lb. and heavier.....	per lb. 40c
2 1/2 lb.	per lb. 45c
2 lb.	per lb. 45c
1 1/2 lb.	per lb. 55c
1 lb.	per lb. 60c

CORNICE BRAKES

Chicago Steel Bending	
Nos. 1 to 6B.....	Net

CUT-OFFS

Gal. plain, round or cor. rd.	
26 gauge	30c
28 gauge	35c

DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.....	\$1 75
8 inch, each 25c, doz.....	2 40
9 inch, each 30c, doz.....	2 75
10 inch, each 35c, doz.....	3 00

Smoke Pipe

7 inch, each.....	\$0 35
8 inch, each.....	40
9 inch, each.....	50
10 inch, each.....	60
12 inch, each.....	90

Reversible Check

8 inch, each.....	1 50
9 inch, each.....	70

Diamond Smoke Pipe

7 inch, doz.....	\$ 5 00
8 inch doz.....	8 00
9 inch, doz.....	12 00
10 inch, doz.....	15 00

Adams' Sheet Metal

7 inch, doz.....	\$ 1 60
8 inch, doz.....	2 20
9 inch, doz.....	2 60
10 inch, doz.....	3 80

Post Hole DIGGERS

Iwan's Split Handle	
(Eureka)	
4-ft. Handle...per doz.	\$14 00
7-ft. Handle...per doz.	36 00
Iwan's Hercules pattern,	
per doz.....	14 90

EAVES TROUGH

Galv. Crimpedge, crated 75 & 5%	
Zinc, "Barnes"	60c

ELBOWS

Conductor Pipe	
Galv. plain or corrugated,	
round flat Crimp.....	60c
28 Gauge	45c
26 Gauge	45c
24 Gauge	15c
Galv. & Terne Steel	
Plain Rd. and Rd. Corr.:	
28 Ga.	60c
26 Ga.	45c
24 Ga.	15c

Square Corrugated

No. 28 Gauge.....	50c
26 Gauge	35c

Portico Elbows

Standard Gauge Conductor Pipe,	
plain or corrugated.....	
Not nested	70 & 5%
Nested solid	70 & 5%

Sq. Corr. A. & B. & Octagon:

28 Ga.	50c
26 Ga.	35c

Portico

1", 1 1/4", 1 1/2".....	45c
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Copper

16 oz., all designs.....	45c
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Zinc—

All styles	60c
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ELBOWS—Steam Pipe

1-piece Corrugated, Uniform Blue	
"Milcor" No. 28 Gauge. Doz.	
5-inch	\$1 35
6-inch	1 35
7-inch	1 75

Special Corrugated

6-inch	\$1 00
7-inch	1 60

Adjustable—Uniform Blue

"Milcor" No. 28 Gauge. Uniform	
Blue. Doz.	
5-inch	\$1 75
6-inch	1 85
7-inch	2 15

Building a Nation-Wide Business for Ingot-Iron Shops

A GAIN the way is being paved for your efforts, if you have an Ingot Iron Shop. The advertisement reproduced below is one of this year's series of ARMCO's national advertisements. It has already appeared in Collier's, Good Housekeeping and Nation's

Business. More will follow throughout the year. But this is not all. Ingot Iron Shops are supplied with follow-ups so they can sell the millions of prospects these advertisements will create. These are a few of the aids to efficient selling:

Blue and White
Enameled Shop Sign
Truck Signs
Job Cards
Sales Letters
Advertisements
Blotters
Folders
Booklets
Circulars
Ingot Iron Shop
News
(A monthly business-
building paper)

The coupon below, addressed to the Secretary of Ingot Iron Shops, Middletown, Ohio, will bring you complete information and an enrollment card. Return it today.



RUST-FIRE!*

In every industry, rust-fire is consuming equipment and profits. How "Armco" Ingot Iron insures against this loss

ARMCO
INGOT IRON
RESISTS RUST

*An unexpected fire is burning night and day in thousands of industrial plants. This fire is rust—more treacherous than flames because it gives no warning. It is costing American business millions. For the insurance indemnity on rust-fire is always paid out of pocket—no policy covers it. So, more and more, executives are insuring Ingot Iron for every sheet metal job. "Armco" Ingot Iron is practically free from the impurities that hasten rust in steel and other metals. It gives unequalled service under even the most severe conditions because "Armco" Ingot Iron is the purest iron made. Wherever you would fight rust—on the roofs and sides of factory buildings, in coal tipplers, on railroad cars, in tanks and heating systems—there "Armco" Ingot Iron will give long life service at lowest cost per year. The use of "Armco" Ingot Iron is also an economy when labor costs are figured. Sixty cents of every dollar on a sheet metal job is spent for labor... so it doesn't pay to invest men's time in metals of shorter life. Moreover, there's a big time saving when "Armco" Ingot Iron is used because it is so ductile and easy to handle. For both new buildings and repairs it is good business to insist on "Armco" Ingot Iron. Look for the Armco Triangle on every sheet. It is your guarantee of a long-time sheet metal job. And in the HOME... Homeowners and builders, too, are saving the frequent repairs, cost and annoyance of galvanized "Armco" Ingot Iron for gutters, downspouts, flashings... and other weather-exposed metal parts about a house. Here, "Armco" Ingot Iron offers a double protection against rust. For it takes and holds a coat of zinc much purer than the galvanizing on steel. Look for the sheet metal shop in your neighborhood that displays the Ingot Iron sign. AMERICAN ROLLING MILL COMPANY MIDDLETOWN, OHIO

*RUST-FIRE! The only difference between rust and fire is that rust is slow and fire is rapid. The sheet metal that rusts the fastest is not steel at all. But is the "rust" of this job.



The Secretary
Ingot Iron Shops
Middletown, Ohio

Send me complete information about the "Ingot Iron Shop Plan," together with an enrollment card.

Name

Street

City State

(American Artisan 5-21-27)

Cash In on The "Rust-Fire" Campaign →

Mention AMERICAN ARTISAN in your reply—Thank you!

ADVERTISERS' INDEX

The dash (—) indicates that the advertisement runs on a regular schedule but does not appear in this issue.

A		M	
Aeolus Dickinson Co.	—	Majestic Co., The	—
American Foundry & Furnace Co.	—	Marshalltown Heater Co.	—
American Furnace Co.	94	Marshalltown Mfg. Co.	127
American Rolling Mill Co.	123	May-Fiebeger Co.	—
American Steel & Wire Co.	131	Merchant & Evans Co.	125
American Wood Register Co.	—	Meyer & Bro. Co., F.	98
Apollo Metal Co.	—	Meyer Furnace Co., The.	90
Arex Co.	130	Michigan Fireproof Skylight Co.	—
Automatic Humidifier Co.	—	Milwaukee Corr. Co., Back Cover	—
B		Monitor Furnace Co.	—
Barnes Zinc Products Co.	—	Mt. Vernon Furn. & Mfg. Co.	—
Belleville Stove & Range Co.	—	Mueller Furnace Co., L. J.	—
Berger Bros. Co.	125	N	
Berger Co., L. D.	131	National Heatcraft Institute.	129
Berns Co., Otto	—	National Warm Air Heating & Vent. Assn.	—
Bertsch & Co.	127	New Jersey Zinc Sales Co., The	—
Brillion Furnace Co.	—	Northwestern Stove Repair Co.	—
Bertsch & Co.	127	O	
Buckeye Products Co.	—	Oakland Fdy. Co.	—
Burgess Soldering Furnace Co.	—	Osborn Co., The J. M. & L. A.	127
C		P	
Central Alloy Steel Corp.	—	Parker-Kalon Corp.	—
Chicago Elbow Machine Co.	127	Peck, H. E.	129
Chicago Furnace Supply Co.	—	Peck, Stow & Wilcox.	—
Chicago Solder Co.	—	Pecora Paint Co.	—
Clayton & Lambert Mfg. Co.	—	Polk, R. L.	—
Cleveland & Buffalo Transit Co.	96	Prest-O-Lite Co., Inc.	—
Cleveland Castings Pattern Co.	96	Q	
Colburn Heater Co.	—	Quick Meal Stove Co.	—
Connors Paint Co., Wm.	97	Quincy Pattern Co.	96
Cortright Metal Roofing Co.	—	R	
Copper & Brass Research Association	—	Reed Air Filter Co.	—
D		Robinson, A. H. Co.	96
Diamond Mfg. Co.	—	Robinson Furnace Co.	95
Dickman Co., Ferdinand.	—	Roemer Heating Co., J.	—
Diener Mfg. Co., Geo. W.	—	Rock Island Register Co.	97
Double Blast Mfg. Co., Inc.	—	Ross-Gould Co.	—
Double Duty Mfg. Co.	—	Royal Ventilator Co.	—
Dries & Krump Mfg. Co.	131	Rybolt Heater Co.	—
Dunning, Inc., E. C.	—	S	
E		Sall Mountain Co.	—
Eaglesfield Ventilator Co.	—	Sapp, G. O.	—
F		Security Stove & Mfg. Co.	—
Fanner Mfg. Co.	97	Sheet Steel Trade Ex. Comm.	—
Floral City Heater Co.	—	Special Chemicals Co.	—
Forest City Fdy. & Mfg. Co.	—	Standard Furn. & Supply Co.	94
Fort Shelby Hotel	—	Standard Ventilator Co.	131
Friedley-Voshardt Co.	—	Stearns Register Co.	—
G		St. Louis Heating Co.	—
Gerock Bros. Mfg. Co.	—	St. Louis Tech. Inst.	130
H		Sturtevant Co.	—
Hall-Neal Co.	—	Success Heater Mfg. Co.	—
Harrington & King Perf. Co.	125	T	
Hart & Cooley Co.	—	Taylor Co., N. & G.	—
Henry Furnace & Fdy. Co.	—	Technical Products Co.	130
Hero Furnace Co.	—	Teela Sheet Metal Co.	—
Hess-Snyder Co.	97	The Thatcher Co.	103
Hessier Co., H. E.	127	Thomas & Armstrong Co.	93
Homer Furnace Co.	—	Tracht Bros. Co., Inc.	—
I		Tuttle & Bailey Mfg. Co.	101
Independent Register & Mfg. Co.	—	XXth Century Htg. & Vent. Co.	91
Inland Steel Co.	—	U	
International Heater Co.	—	Unishair Co., Inc.	—
K		United States Register Co.	—
Keith Furnace Co.	—	Utica Heater Co., Front Cover	—
Kernchen Co.	—	V	
Kirk-Latty Co.	96	Vedder Pattern Works	96
L		Viking Shear Co.	—
Lalance & Grosjean Mfg. Co.	—	W	
Lamneck & Co., W. E.	100	Walworth Run Fdy. Co.	98
Lamson & Seassons Co., The.	—	Warm Air Furnace Fan Co.	99
Langenberg Mfg. Co.	—	Waterman-Waterbury Co.	104
Lennox Furnace Co.	92	Western Steel Products Co.	—
Liberty Foundry Co.	—	Wheeling Corr. Co.	—
Linde Air Products Co.	121	Wheeling Metal & Mfg. Co.	125
Lupton's Sons Co., David.	—	Whitney Mfg. Co., W. A.	127
		Whitney Metal Tool Co.	—
		Williamson Heater Co.	—
		Wise Furnace Co.	—
		Z	
		Ziener Aluminum Solder Co.	—

Markets—Continued from page 122

NETTING, POULTRY		ROOFING	
Galvanized before weav-	ing	Best grade, slate surf. prep'd	\$2 80
Galvanized after weav-	ing	Best talc surfaced	2 65
		Medium talc surfaced	2 00
		Light talc surfaced	1 20
		Red Rosin Sheeting, per ton	\$7 00
FASTE		SCREWS	
Asbestos Dry Paste:		Sheet Metal	
200-lb. barrel	\$16 00	7, 1/4x1/4, per gross	\$0 82
100-lb. barrel	8 75	No. 10, 1/4x3/16, per gross	68
35-lb. pail	3 50	No. 14, 1/4x1/4, per gross	89
10-lb. bag	1 10	SHEARS, TINNERS' & MACHINISTS'	
5-lb. bag	60	Viking	\$22 00
2 1/2-lb. cartons	35	Lennox Threadless	
PIPE		No. 18	35%
Conductor		Shear blades	10%
Cor. Rd., Plain Rd. or Sq.		(f. o. b. Marshalltown, Iowa.)	
Galvanized		SHIELDS, REGISTER	
Crated and nested (all	gauges)	No. 1 "Gem" floor	\$12 00 doz.
Crated and not nested	(all gauges)	No. 2 "Gem" wall	6 00 doz.
		SHOES	
Furnace Pipe		Galv. 28 Gauge, Plain or	
Double Wall Pipe and	Fittings	corg. round flat crimp	60%
Single Wall Pipe, Round	Galvanized Pipe	28 gauge round flat crimp	45%
Galvanized and Tin Fittings	50%	24 gauge round flat crimp	15%
Lead		SNIPS, TINNERS'	
Per 100 lbs.	\$12 50	Clover Leaf	40 & 10%
Stove Pipe		National	40 & 10%
"Milcor" "Titelock" Uniform		Star	50%
Blue Stove		Milcor	Net
28 gauge, 5 inch U. C.	11 50	SQUARES	
28 gauge, 6 inch U. C.	12 25	Steel and Iron	Net
28 gauge, 7 inch U. C.	14 25	(Add for bluing, \$3 per doz. net)	
30 gauge, 5 inch U. C.	10 50	Mitre	Net
30 gauge, 6 inch U. C.	11 25	Try	Net
30 gauge, 7 inch U. C.	13 25	Try and Bevel	Net
T-Joint Made up		Try and Mitre	Net
6-inch, 28 ga.	per Doz. \$ 5 00	Fox's	per doz. \$5 00
All Zinc		Winterbottom's	10%
No. 11, all styles	60%	STOPPERS, FLUE	
POKERS, STOVE		Common	per doz. \$1 10
W'r't Steel, str't or bent,	per doz. \$0 75	Gem, No. 1	per doz. 1 10
Nickel Plated, coil handles,	per doz. 1 10	Gem, flat, No. 3	per doz. 1 00
POKERS, FURNACE		VENTILATORS	
Each	\$0 50	Standard	20 to 40%
PULLEYS		WIRE	
Furnace Tackle	per doz. \$0 60	Plain annealed wire, No. 3,	
Furnace Screw (enameled)	per doz. 75	per 100 lbs.	\$3 05
Ventilating Register		Galvanized barb wire, per	
Per gross	9 00	100 lbs.	3 90
Small, per pair	30	Wire cloth—Black painted,	
Large, per pair	50	12-mesh, per 100 sq. ft.	1 65
PUTTY		Cattle Wire—galvanized catch	
Commercial Putty, 100-lb.		weight spool, per 100 lbs.	2 65
Kits	\$3 40	Galvanized Hog Wire, 80 rod	
QUADRANTS		spool, per spool	3 13
Malleable Iron Damper	10%	Galvanized plain wire, No. 9,	
REDUCERS—Oval Stove Pipe		per 100 lbs.	3 40
7-8, 1 doz. in carton	\$2 25	Stove Pipe, per stone	1 10
BASEBOARD REGISTERS		WRINGERS	
.....	50%	No. 790, Guarantee	each \$ 5 10
FLOOR REGISTERS AND BORDERS		No. 770, Bicycle	each 4 70
Cast Iron	20%	No. 670, Domestic	each 4 35
Steel and Semi-Steel	40%	No. 110, Brighton	each 3 70
Baseboard	40%	No. 750, Guarantee	each 5 10
Adjustable Ceiling		No. 740, Bicycle	each 4 70
Ventilators	40%	No. 22, Pioneer	each 3 40
Register Faces—Cast and Steel		No. 2, Superb	each 2 65
Japanned, Bronzed and			
Plated, 4x6 to 14x14	40%		
Large Register Faces—Cast,			
14x14 to 38x43	60%		
Large Register Faces—Steel,			
14x14 to 38x43	65%		
RIDGE ROLL			
Galv., Plain Ridge Roll,			
b'd'd	75-10-5%		
Galv., Plain Ridge Roll,			
crated	75-10%		
Globe Finials for Ridge			
Roll	50%		

ARMCO INGOT IRON

The Purest Iron Made

ARCHITECTS and Contractors are well acquainted with this long-lasting sheet metal. Our stock includes every size and gauge required by the trade.

"Since 1866" we have been serving and satisfying customers in all parts of the country.

Everything in Sheet Metal

Coke and Charcoal	Brass—Copper
Tin Plate	Nickel
Roofing Plate	(in all forms)
Conductor Pipe	"Mond-70"
Gutter	Babbitt
Tinner's Supplies	Solder



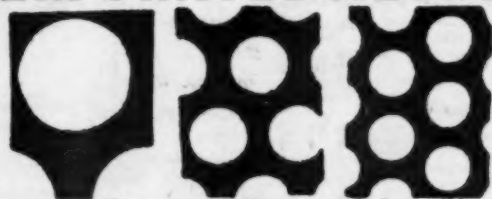
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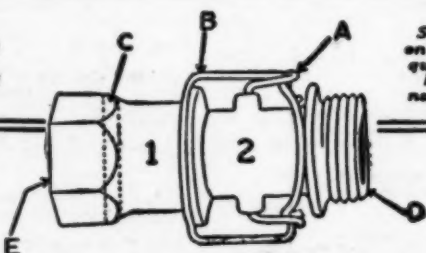
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Whitney Metal Tool Co.,
Rockford, Ill.

Torches.
Burgess Soldering Furnace Co.,
Columbus, Ohio
Clayton & Lambert Mfg. Co.,
Detroit, Mich.
Diener Mfg. Co., G. W.,
Chicago, Ill.
Double Blast Mfg. Co.,
North Chicago, Ill.
Quick Meal Stove Co.,
St. Louis, Mo.

Trade Extension.
Copper & Brass Research As-
sociation,
New York, N. Y.
Sheet Steel Trade Extension
Committee,
Pittsburgh, Pa.

Trimming—Stove.
Fanner Mfg. Co.,
Cleveland, Ohio

Ventilators.
Arex Company,
Chicago, Ill.
Aeolus Dickinson Co.,
Chicago, Ill.
Berger Bros. Co.,
Philadelphia, Pa.
Friedley-Voshardt Co.,
Chicago, Ill.
Kernchen Co.,
Chicago, Ill.
Lupton's Sons Co., David,
Philadelphia, Pa.
Milwaukee Corrugating Co.,
Milwaukee, Wis.
Royal Ventilator Co.,
Philadelphia, Pa.
Standard Ventilator Co.,
Lewisburg, Pa.
Sturtevant Co.,
Boston, Mass.

Ventilators—Ceiling.
Eaglesfield Ventilator Co.,
Indianapolis, Ind.
Hart & Cooley Co.,
New Britain, Conn.
Henry Furnace & Fdy. Co.,
Cleveland, Ohio
Independent Register & Mfg. Co.,
Cleveland, Ohio
Tuttle & Bailey Mfg. Co.,
New York
Sturtevant Co., B. F., Boston, Mass.

Windows—Steel.
Lupton's Sons Co., David,
Philadelphia, Pa.

Wire—Electrical.
American Steel & Wire Co.,
Chicago, Ill.

Wire Hoops.
American Steel & Wire Co.,
Chicago, Ill.

Wire Rope.
American Steel & Wire Co.,
Chicago, Ill.

Zinc.
Merchant & Evans Co.,
Philadelphia, Pa.
New Jersey Zinc Co., The,
New York, N. Y.
Apollo Metal Works,
La Salle, Ill.

Zinc—Polished.
Apollo Metal Works,
La Salle, Ill.

WANTS AND SALES

Any yearly subscriber to AMERICAN ARTISAN may insert advertisements of not more than fifty words in our Want and Sales Columns WITHOUT CHARGE.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired.

BUSINESS CHANCES

Lightning Rods—Dealers who are selling Lightning Protection will make money by writing us for our latest Factory to Dealer Prices. We employ no salesmen and save you all overhead charges. Our Pure Copper Cable and Fixtures are endorsed by the National Board of Fire Underwriters and hundreds of dealers. Write today for samples and prices. L. K. Diddle Company, Marshfield Wisconsin.

Attention, Mr. Furnace or Stove Manufacturer, or anyone wishing to get the best patent covering warm air or Parlor furnaces. Something that will show 100% more efficiency than anything ever on the market. For information write W. E. Toler, Pawnee, Okla. 21-3t.

For Sale—Sheet metal shop. Located in Chicago. Established 15 years. Good paying business. Good reason for selling. Priced reasonable. Address—5651 Wayne Avenue, 1st Apt., Chicago, Illinois. Telephone Ardmore 4381. 21-3t.

SITUATION WANTED

Situation Wanted—By first class tinner and furnace man. Can do in and outside work. 25 years at trade. Nothing but steady position the year around. Am married and a good mechanic. Pattern draftsman. Have always worked in a general shop where all classes of work has been done, such as custom work and jobbing for further information. Address—Box 8, St. Albans, Vermont. 21-3t.

Situation Wanted—As tinner expert furnace man, plumbing and heating. 40 years of age and married. Can furnish best of references. Job must be steady. State your price of wages per week and particulars in letter. Address—B-31, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 21-3t.

Situation Wanted—By a first class plumber and tinner, also furnace man, have worked over 30 years at the trade. Am married. Want steady position the year around. Hardware shop in small town up to 3,000 population preferred. Please state wages. Address Box 663, Fargo, North Dakota. 20-3t.

Situation Wanted—In tinshop or combination tinshop and hardware store. Age 45. Married. Sober and good workman. Good furnace man. Address B-33, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 21-3t.

Situation Wanted—By an all around sheet metal worker. Can estimate, detail and cut patterns. A first class workman inside and out. Address B-23, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 20-3t.

Situation Wanted—I am an experienced furnace installer and sheet metal worker and seek employment. Am married and desire steady employment. For further information address Wm. R. H. Cooke, 1523 North 5th Street, Cedar Rapids, Iowa. 20-3t.

Situation Wanted—By a sheet metal worker who can work in or outside. Also one who understands pattern cutting. Address—B-30, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 21-3t.

Situation Wanted—Young man with four years' experience wants situation in sheet metal shop. Address—B-32, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 21-3t.

SITUATION WANTED

Situation Wanted—By a first-class sheet metal worker with twenty-five years at the trade as working foreman or Bench Hand. Can draft all patterns and read blue prints. Formerly from Washington, D. C. Address—Metal Worker, 313 Western Avenue, Janesville, Wisconsin. 21-3t.

Situation Wanted—By competent tinner and plumber. Can do anything that will come into small town shop. Married. 34 years old. Also capable hardware clerk. State wages in first letter. Address—B-29, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 20-3t.

HELP WANTED

Wanted—Union shop foreman. Must be first-class mechanic and all around tinner and sheet metal worker, who can read plans, layout work and manage large shop. Must be a sober conscientious worker. A-1 references required. Address—Wm. A. Tipton, Inc., 4948-50 Easton Avenue, St. Louis, Missouri. 21-3t.

Wanted—Union shop foreman. Must be first class mechanic and all around tinner and sheet metal worker, who can read plans, layout work and manage large shop. Must be a sober, conscientious worker. A-1 references required. Address Wm. A. Tipton, Inc., 4948-50 Easton Avenue, St. Louis, Missouri. 20-3t.

Wanted—A plumber to take an interest in a business. Plenty of work to start with. New water system installed in town. A small capital required but not necessary if a willing worker. Can start at once. Year around proposition. Wire, if interested. S. W. Lacey, Mackinac Island, Michigan. 20-3t.

Wanted—Experienced foreman able to handle forty to fifty men in sheet metal forming department and assembling for steel refrigerators; some pattern work. Give references. Illinois Refrigerator Co., Morrison, Illinois. 20-3t.

Wanted—An Illinois Licensed Journeyman plumber. Must be able to do hot water and steam heating, also be able to take charge of job. Non-union. E. V. Schmidt Plbg. & Htg. Co., 102 Main street, Dundee, Illinois. 21-3t.

TINNERS' TOOLS

For Sale—One P.S.&W. adjustable barfolder 20", good as new, and cost \$45.00 new. \$20.00 cash. Also one P.S.&W. 20" gutter beader with adjustable clamp body that releases rod when bead is formed. \$5.00. Address—J. W. Strain, 114 West 2nd Street, Sedalia, Missouri. 21-3t.

For Sale—A full set of tinner's tools excepting brake, all in A-1 condition, including work bench. Invoice \$681.46. Price for cash, \$150; also some Caloric furnace parts; Alamo light plant. R. W. Tyler, 44 White Court, Canton, Illinois. 19-3t.

Wanted—One only used 8' cornice brake. Price right for cash. Lee W. Panney, Box 26, Camden, Michigan. 20-3t.

SPECIAL NOTICES

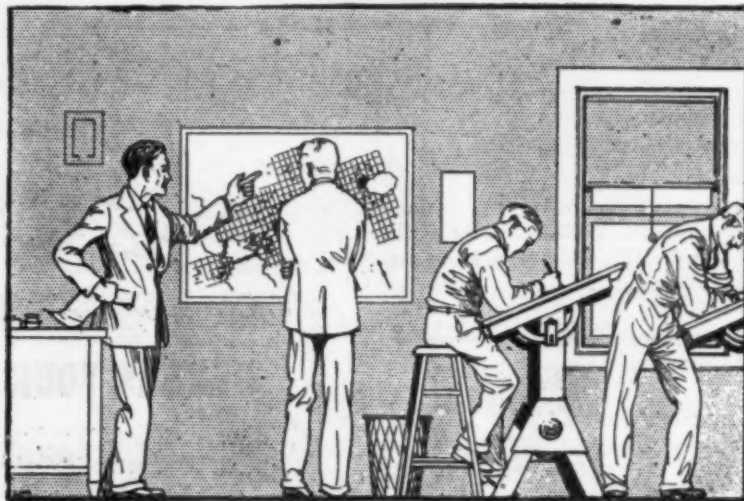
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PATENTS

HUBERT E. PECK
Patent Attorney
Barrister Bldg., WASHINGTON, D. C.

SITUATION WANTED

To represent a Sheet Metal Manufacturer, and call on tin shops, sheet metal workers, furnace shops and jobbers of sheet metals. Can furnish references. Know the trade in Wisconsin and Upper Michigan. Address W-23, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 21-1t.



SPECIAL SHORT COURSES IN WARM AIR HEATING

1. Draughting. (Class room instruction or correspondence.)
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3. Merchandising. (Class room instruction and actual practice.)

Write for Catalog

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202 Main St.
Peoria, Illinois

When writing mention AMERICAN ARTISAN—Thank you!

SPECIAL NOTICES**SITUATION WANTED**

To represent a Stove or Furnace Manufacturer in Wisconsin and upper Michigan. Can furnish references. Know about all the dealers. Address W-22, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

21-1t.

WANTED

Salesman for sheet metal jobbing house to call on trade in middle west and Ohio. Exceptional opportunity for right man. State qualifications in first letter. Address W-25, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

21-1t.

WANTED

A RETAIL FURNACE SALESMAN who knows the Standard Code, who can make his own layouts and best of all, who can SELL good Warm Air Heating Systems and get the money for them. To such a man with a car, we offer a salary and bonus and position is open now. The opening is just a few miles from Chicago. Call Fairfax 8750, Chicago, or write to W-21, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

21-3t.

**WANTED
FURNACE SALESMAN**

to travel an Iowa territory calling on dealers. Must have a successful selling record, understand the furnace business and be a producer.

This is a high-class proposition, and only men who can make good need apply.

Salary and expenses paid with a commission in addition.

Give your complete record in first letter. Address W-19, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

20-2t.

**WANTED
SALES MANAGER**

for prominent furnace manufacturer of Northern Ohio. The man that is wanted must be able to take complete charge of salesmen and direct sales. Salary to be commensurate with ability and high enough to attract man of high caliber. Please do not reply unless you are in a position to qualify. Address W-18, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

20-3t.

SPECIAL NOTICES**MANUFACTURERS WANTED**

to Manufacture and Market "Knock Down" furnace hood or bonnet. Can be assembled or dismantled in three minutes. Neat and practical. Address W-24, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

21-1t.

WANTED

Experienced Parlor Furnace Salesman wanted for Ohio. Must have successful record in this line. The Waterman-Waterbury Company, Minneapolis, Minnesota.

21-2t.

CLEAN HEAT
WHEN YOU USE

ASBESTOS INSULATION SEALING
A LIQUID PORCELAIN
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An 8-lb. can
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SPECIAL NOTICES**FURNACE SALESMAN
COVERING NEBRASKA**

wants live side line on commission. Address W-20, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

21-3t.

**STATE
REPRESENTATIVES WANTED**

to handle complete line of furnace fittings for one of the oldest and best established firms in the country.

We want men in all the Northern, Southern and Western States to represent us either exclusively or in conjunction with some hardware or sheet metal line.

Experience in furnace fittings not necessary, but acquaintance with trade would be very helpful. Give full details in first letter.

Write at once to W-8, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

10-3t.

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Only A Few—probably—

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electrical, rope, barbed, plain, nails (bright

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The NEW IMPROVED "STANDARD" Rotable Ventilator



Patents pending

This favorite cone-shaped ventilator is now improved in several important points.

The weight of the ventilator body is now carried on a concave thrust bearing nested in the apex of the conical body. This bearing turns upon the pivot point of the stationary center spindle.

The bronze Guide Bushings are now made of non-corrosive bronze which minimizes friction and any tendency to screech when body is rotating.

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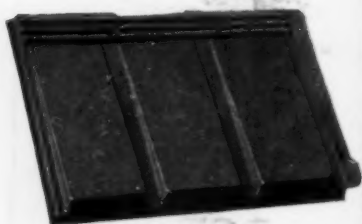


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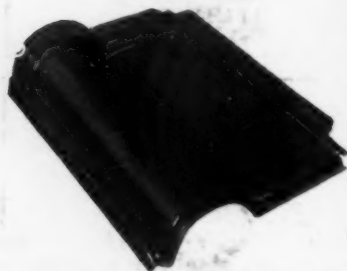
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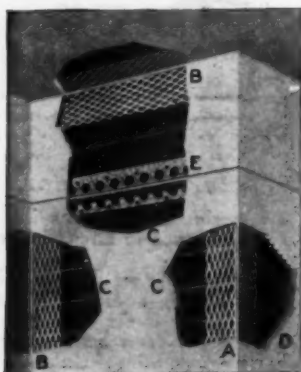


Milcor "Titelock"
American Metal Tile



Milcor "Titelock" Spanish Metal Tile

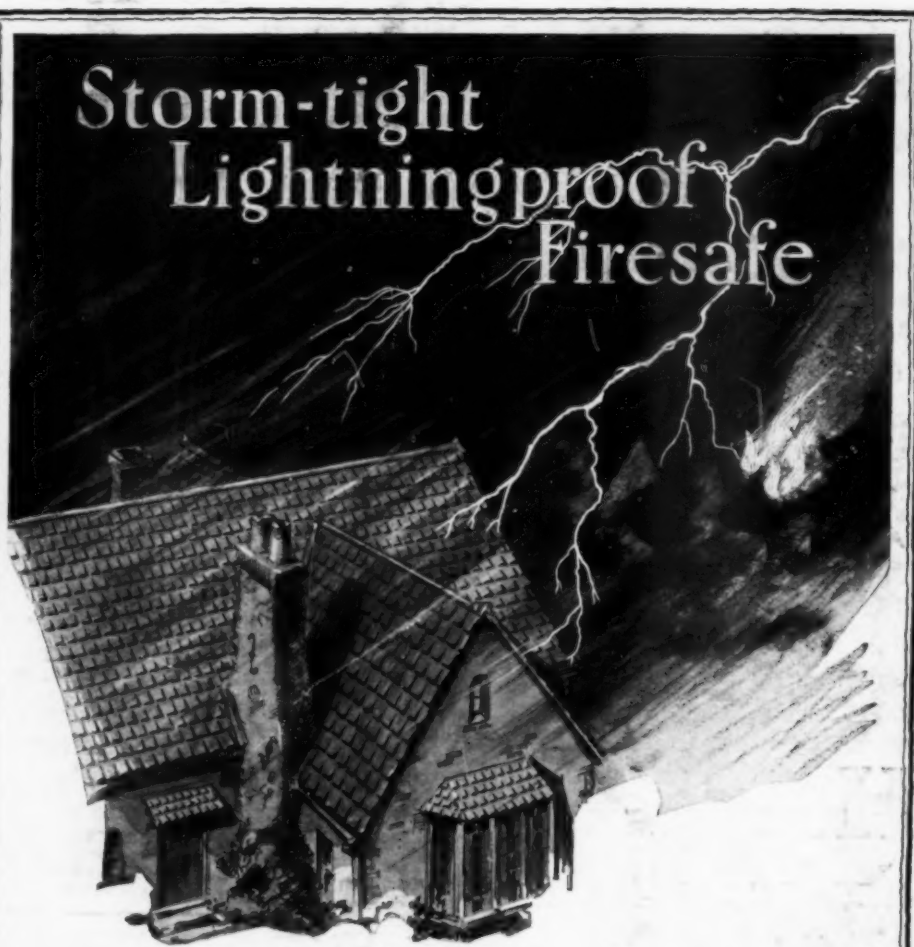
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